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CONFIDENTIAL

(1)

U.S. ARMY CONCEPT TEAM IN VIETNAM
APO 143, San Francisco, California

ACTIV-AM

(11) 31 January 1963,

(1) Employment of OV-1 (Mohawk) Aircraft

in Support of Counter-Insurgency Operations (C),

(5)

~~Short Title:~~ EMASCO

(1) MONTHLY REPORT NO. 3,

16 December 1962 - 15 January 1963.

CONFIDENTIAL

ACTIV-AM 31 January 1963

SUBJECT: Monthly Test Report Number 3 — Employment of OV-1 (Mohawk) Aircraft in Counter-Insurgency Operations (16 December 1962 - 15 January 1963) (C)

TO: See Annex P

1. (C) General.

a. Purpose of the test:

To test and evaluate the 23rd Special Warfare Aviation Detachment (Surveillance) (23rd SWAD) under field combat conditions to determine the adequacy and suitability of organization, equipment, missions, doctrine, tactics, procedures, and techniques for conducting counter-insurgency operations.

b. Test concept:

(1) Field tests are being conducted in the Republic of Vietnam (RVN) to support actual operations as specified by COMUSMACV. During the test period the test unit has supported the II Army of Vietnam (ARVN) Corps except that one Mohawk supported the 3rd Radio Research Unit (3rd RRU) in the Delta area from 7 through 10 January.

(2) Deployment of the 23rd SWAD during the reporting period was:

(a) One flight team (two aircraft and 16 personnel), stationed at Qui Nhon, gave direct support to the 9th Division.

(b) 23rd SWAD (-), stationed at Nha Trang, provided:

1. Reinforcement to the flight team at Qui Nhon.

2. Surveillance of the coastal railway in II Zone.

3. General support as directed by II ARVN Corps.

c. Significant events affecting the test:

(1) On 1 January the 9th Division tactical zone was extended to include Phu Yen Province. Concurrently, the 47th Regiment was attached to the 9th Division. Execution of a plan to provide continuous surveillance of a limited area in Binh Dinh Province as the prelude to clear-and-hold operation VAN THINH II was postponed due to the sudden movement of

two 9th Division regiments to Phu Yen Province on 6 January. It is planned to initiate the limited-area, continuous surveillance test as soon as the emphasis of 9th Division operations shifts back to Binh Dinh Province.

(2) On the afternoon of 10 January, aircraft JOV-1C 61-2704 failed to return from a surveillance mission in Phu Yen Province. It is presumed to have gone down. From 1630 hours, 10 January, through 15 January, all aircraft were employed exclusively in a coordinated search for the missing Mohawk. Events connected with the loss of the aircraft are described at Annex H.

2. (C) Test Progress.

a. The test is considered to be 60% complete.

b. A summary of significant statistical data follows:

	16 Oct-15 Nov	16 Nov-15 Dec	16 Dec-15 Jan	TOTAL
Number of combat support missions	87	162	193	442
Photo	44	28	39	111
Observation	10	62	44	116
Railroad reconnaissance	31	44	43	118
Night illumination	2	3	2	7
Leaflet drop	0	5	2	7
Convoy observation	0	7	1	8
Helicopter observation	0	21	14	35
Search and rescue	0	0	56	56
Number of photographic prints delivered	5700	3130	8130	16,960
Number of times artillery adjusted	3	7	7	17
Number of aircraft hit by ground fire	1	1	2	4
Number of hits	2	2	2	6

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	16 Oct-15 Nov	16 Nov-15 Dec	16 Dec-15 Jan	TOTAL
Number of times hostile ground fire directed at aircraft observed by crew	3	4	0	7
Number of times hostile fire on aircraft reported by ground units in addition to above	2	0	1	3
Number of times defensive fire delivered	3	4	0	7
Aircraft lost (unknown cause)	0	0	1	1
Average number of aircraft in working fleet (assigned minus EDP & crash)	5.25	5	4.7	- -
Average number of aircraft available daily	3.7	4.6	4.4	- -
Percent of working fleet available	70%	92%	94%	- -
Total flight hours	337	383	461	1181
Average daily flight hours by unit	10.9	12.8	15.0	- -
Hours per aircraft in working fleet (monthly rate)	64	77	98	- -

3. (U) Content and format of report.

a. Content: Much material published in Monthly Reports Numbers 1 and 2 will not be repeated here. These monthly reports are intended to indicate progress and to provide for an orderly collection of data to be included in the final test report. All monthly reports should be consulted for full knowledge of test activities to date.

b. Format: Annexes A through G cover the seven test objectives. Annexes H through O contain back-up data. Distribution of the report is shown at Annex P.

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4. (C) References.

a. USMACV letter of 29 September 1962, subject: "Test Plan, AO-1 (Mohawk) Aircraft for Province/Sector Surveillance in Support of Counter-Insurgency Operations (C)".

b. USMACV message, J3 4213 (1962), subject: "Operational Employment of the 23rd Special Warfare Aviation Detachment (Surveillance)".

c. DA letter of 6 November 1962, AGAM-P(M) 381 (31 Oct 62) DCSOPS, subject: "Army Troop Test Program in Vietnam (U)".

d. Monthly Test Report Number 1, Army Concept Team in Vietnam, subject: "Employment of OV-1 (Mohawk) Aircraft in Support of Counter-Insurgency Operations (C)", 30 November 1962.

e. Monthly Test Report Number 2, Army Concept Team in Vietnam, subject: "Employment of OV-1 (Mohawk) Aircraft in Support of Counter-Insurgency Operations (C)", 31 December 1962.

16 Incl
List on next page

E. L. ROWNY
Major General, USA
Chief

DISTRIBUTION:
See Annex P

ACTIV-AM
Monthly Test Report Number 3 -- Mohawk

ANNEX A -- Objective 1 (Area surveillance)

1. (C) Objective.

"To determine the results obtained by providing continuous surveillance to a limited area; i.e., reduction in VC incidents, restrictions to VC movements, increase of RVNAF (Republic of Vietnam Armed Forces) response and effectiveness."

2. (C) Discussion.

a. Test activities relevant to this objective have been conducted in the same manner and in the same two test areas as described in Monthly Report Number 2 -- Binh Dinh Province (Area A) and Trans-Vietnam Railway, II Zone (Area B).

b. Incident rate, Binh Dinh Province.

See paragraphs 5a and 5b of letters I-1 and I-3 (Annex I).

c. Railway incidents, Republic of Vietnam.

(1) For security purposes, the Trans-Vietnam Railway is divided into three zones. The 23d SWAD has performed daily reconnaissance of the railway system in II Zone since late October 1962. The table below compares the monthly railway incidents by zone from June (the month in which US railway advisors were first assigned) through December, 1962.

	Number of incidents		
	II Zone	I Zone	III Zone
June	13	10	2
July	26	7	1
August	10	3	2
September	12	5	1
October	10	6	1
November	9*	13	1
December	3*	13	1

* = full months of Mohawk reconnaissance.

(2) The reduction in the incident rate in II Zone since Mohawk operations began assumes special significance when compared with the rising trend in I Zone during the same period. The Railway Security Advisor, II Zone, and the Senior US Advisor, II Corps, believe that daily railway surveillance in II Zone by the Mohawks has been largely responsible for the decrease in incidents.

d. Restrictions to VC movement.

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ANNEX A -- Objective 1 (continued)

The degree of restriction is difficult to determine in the absence of knowledge of the intentions of VC leaders. Some US advisors have concluded that aircraft activity does inhibit VC movement. Indirect evidence in support of this belief is given in Letter I-4 (Annex I), Report J-1 (Annex J), and in Annex L.

e. Increase in RVNAF response and effectiveness.

(1) Annex I contains examples illustrative of ways in which the 23d SWAD has contributed to the effectiveness of RVNAF operations. Intelligence derived from the 23d's activities has been used for planning ground and air-mobile operations and for developing target data for artillery fires and air strikes.

(2) The responsiveness of the 23d SWAD has been instrumental in developing effective air-ground procedures in the 9th ARVN Division. Positive and effective use of 23d SWAD aircraft by ARVN commanders and staff officers has contributed to increased professional competence leading toward the goal of an integrated air-ground team.

3. (C) Findings.

a. Statistical analyses made thus far indicate that VC incident rates are inconclusive as indicators of the effectiveness of 23d SWAD operations in Binh Dinh Province. (Letters I-1 and I-3, Annex I).

b. 23d SWAD operations have been a major factor contributing to the continued decline in railway incidents in the II Zone (Letter I-1, Annex I; Report J-1, Annex J).

c. Indirect evidence indicates that Mohawk operations inhibit VC activity (Report J-1, Annex J; Annex L).

d. 23d SWAD operations have contributed to increased RVNAF effectiveness by providing support that has not been available from other sources (Annex I).

e. The responsiveness of Mohawk support has increased 9th Division combat effectiveness by: increasing morale; developing air-mindedness in commanders and staffs; developing confidence in the air request system; and expediting the development of improved air-ground procedures and SOP's (Letter I-4, Annex I).

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ANNEX A

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Monthly Test Report Number 3 -- Mohawk

ANNEX B -- Objective 2 (Suitability of Mohawk for surveillance)

1. (C) Objective.

"To determine the suitability and feasibility of OV-1 aircraft for tactical area surveillance."

2. (C) Discussion.

a. Although the versatility of the Mohawk continues to receive favorable comment from supported units, US advisors and ARVN officers have pointed out that the capability of the aircraft system to strike targets of opportunity is not being exploited. Since the present rules of employment do not permit "armed reconnaissance," the capability of the Mohawk to fight as well as to find insurgents cannot be tested.

b. The II Corps Senior Advisor has pointed out two modifications that would increase the surveillance capability of the aircraft.

(1) Installation of a forward-looking camera in the nose of the aircraft. This would permit oblique strip photography of the air routes leading to landing zones: such photos could be used to brief participants in air mobile operations. The KS-61 camera system installed in the aircraft can take oblique photos to each side only, not forward.

(2) Development of a capability for carrying a larger number of illuminating flares. At present only four Mark VI flares can be carried when external fuel tanks are attached (one per stores station). It should be possible to develop a cluster arrangement of up to six flares at each stores station. With this there should be an intervalometer or selector switch to permit dropping the flares individually.

3. (C) Findings.

a. Installation of a forward-looking nose camera would permit the Mohawk to accomplish certain missions which cannot be handled adequately by the KS-61 camera system (Letter I-1, Annex I).

b. The Mohawk could perform night illumination missions more effectively if an increased flare-carrying capacity were provided.

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ANNEX C — Objective 3 (Activities detected visually and by photographs)

1. (C) Objective.

"To determine the nature of insurgent activities which can be detected by visual and photographic means."

2. (C) Discussion.

a. The extracts from aviators' debriefing forms (Annex K) contain typical examples of the variety of insurgent activity which can be detected visually.

b. A photograph showing anti-helicopter stakes emplaced around a VC structure is appended to this Annex. These stakes are a particularly difficult photographic target because of their small diameter. Through trial, it has been found that large-scale vertical photos taken in the early morning or late evening are best for stake detection — their shadows are readily apparent at those times.

3. (U) Findings.

No change from Report Number 2.

4. (U) Attachments.

Photograph.

VC structures at YA 965756 Note anti-helicopter stakes in the cleared area.

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ANNEX D -- Objective 4 (Doctrine, procedures, tactics, and techniques)

1. (C) Objective.

"To determine the adequacy and validity of current US Army doctrine, procedures, tactics, and techniques for employment of OV-1 type aircraft in a tactical area surveillance role and to further develop doctrine, procedure, tactics, and techniques for counter-insurgency type operations."

2. (C) Discussion.

a. Doctrine.

(1) US advisors with supported units continue to report favorably on the responsiveness, willingness, and effectiveness of the 23d SWAD employed in the direct support role. The following extract from an evaluation letter prepared by the Senior Advisor, 47th ARVN Regiment, illustrates this theme:

"To be of effective use to the ground commander, air support must, as a minimum, be responsive and willing. The initial reaction time must coincide with the ground commander's requirements. In counter-insurgency operations the planning time is often short, the target fleeting. In order to respond to requirements of units operating on foot, aircraft must be capable of communicating with back-pack radios and the pilot must be able to understand the situation and needs of a ground unit. The aircraft must be capable of getting to and from the target area quickly, and accomplishing the mission requirements of the ground unit supported. The personnel of an aviation unit must be willing to share hardships and dangers with the ground unit, and willing to exercise to a maximum their initiative and specialized ability as well as the capabilities of their machinery. The 23d Sp War Det has met these mission requirements with the OV-1 aircraft to the satisfaction of this unit."

(2) Examples of 23d SWAD responsiveness to immediate requests are given in Annex I (letter I-5) and in Annex L.

b. Tactics.

Most of the 23d SWAD's missions have been carried out by a single aircraft. On 10 January 1963, an aircraft operating alone was lost for reasons not yet determined. This loss has raised the question as to whether aircraft should operate in pairs while engaged in observation or surveillance missions.

(1) In the opinion of the commander of the 23d SWAD, the OV-1 is most productive when employed singly. The following considerations apply:

(a) Approximately twice as much coverage can be provided by a single aircraft as by two aircraft employed on a single mission.

(b) Most observation missions and many photographic missions are performed at a relatively low level (50 to 1000 feet absolute altitude), over broken compartmentised terrain. If two aircraft were assigned to a single mission, the crew of the second would be preoccupied with maintaining station on the lead aircraft and devoting little effort to observation. The maneuvers of the lead aircraft would also be restricted

ANNEX D — Objective 4 (continued)

since the aviator would have to be concerned with the effect of his maneuvers on the second aircraft. A second (wing) aircraft would be particularly restrictive on low level observation missions in narrow valleys—the type terrain in which most observation missions here are conducted.

(c) If the second aircraft flew at a higher altitude in an overwatching or covering role the element of surprise would be lost. Insurgents could be expected to take cover at the sight of the overwatching aircraft thereby reducing or eliminating the possibility of the low level search aircraft acquiring targets.

(d) In exceptional cases, a two-aircraft team is preferable. An example is an observation mission over an area of known VC concentration from which automatic weapons fire may be expected. In this situation, the risk involved might warrant an over-watching aircraft.

(2) The foregoing analysis is based on three months experience in the II Corps area. Changes in VC tactics would require a revaluation of tactics to be employed. Under present circumstances the extra risk involved in employing Mohawks singly is more than compensated for by increased effectiveness.

c. Techniques and procedures.

The techniques and procedures used by the 23d SWAD to perform photographic missions are shown at Annex O. These procedures were developed to fit the particular circumstances under which the unit has been employed in the II Corps zone. Modifications would probably be required for employment in a different tactical environment.

3. (C) Findings.

a. The method of employment of the 23d SWAD has met the mission requirements of supported units (Annex I).

b. Under circumstances now prevailing in the II Corps zone, employment of single Mohawk aircraft normally is more effective than employment in pairs.

c. The photographic techiniques and procedures shown at Annex O have been employed successfully for a three-month period in the II Corps zone.

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ANNEX D

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Monthly Test Report Number 3 — Mohawk

ANNEX E — Objective 5 (Adequacy of equipment and personnel)

1. (C) Objective.

"To determine the adequacy of equipment and personnel to support tactical area surveillance operations".

2. (C) Discussion.

a. Personnel.

(1) 23rd SWAD rules of employment require that an ARVN observer be aboard the aircraft on each operational flight. The following discussion outlines the training and employment of these observers and the advantages and disadvantages associated with their use.

(2) Six ARVN observers in grades from aspirant to captain were assigned to the 23rd SWAD on 19 October 1962. Their ability to speak English varied from fair to poor. Five were artillery officers; the sixth was an infantryman. None was pilot rated. Two were assigned to each of the three flight teams. They were completely integrated into the unit — living, eating, and working with US personnel. A 23-hour period of ground instruction was given prior to their participation in operational flights. This covered: familiarization with the cockpit and controls, function and use of the ejection seat and associated belts and straps, safety practices, use of the radios, map reading, techniques of aerial observation, radio procedure and common aircraft radio terminology, use of survival equipment, method of recording spot report information, and the mission and rules of employment of the unit.

(3) By the end of November it became apparent that the workload was too great for six observers; II Corps was asked to provide four more. Three additional observers, with qualifications similar to the original six, were assigned by 1 January 1963.

(4) Aerial observation is a demanding task that requires training, practice, and effective pilot-observer teamwork. Although there is wide variation in their abilities, the ARVN observers have in general done an excellent job. Those best qualified in English are preferred by the US pilots. Compatibility of personalities is a requisite for effective teamwork.

(5) Advantages of employment of ARVN observers are:

(a) The observer speaks Vietnamese and can communicate by radio with RVNAF units. In many missions this is the only channel through which spot reports can be made or orders received for diversion of the aircraft to a new mission.

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ANNEX E

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Monthly Test Report Number 3 — Mohawk

ANNEX E — Objective 5 (Cont'd)

(b) The observer's familiarity with the local environment and with population habits often permits him to detect, identify, and analyse activity which might be missed or misinterpreted by the US pilot.

(c) Observers perform a valuable teaching function by explaining environmental peculiarities to the US pilots.

(6) Disadvantages are:

(a) The observers are not pilots; they cannot land the aircraft in case of an emergency.

(b) The observers are not sufficiently trained to operate the camera system without supervision or to assist the pilot during instrument flight; their presence thus may impose a burden on the pilot during flights made at night or during periods of poor visibility.

(c) In certain missions — such as reconnaissance of landing zones and control of helicopter movements — it would be desirable for the helicopter unit commander, or his representative, to fly in the Mohawk. This is precluded because of the mandatory presence of the Vietnamese observer.

b. Equipment.

(1) The desirability of a forward-looking nose camera for the Mohawk is covered in Annex B.

(2) In Annex E to Monthly Report Number 2, it was pointed out that the photographic processing equipment assigned to the 23rd SWAD is inadequate. Based on his own analysis of requirements, the Commanding Officer of the 23rd SWAD has requested additional equipment (Annex M).

3. (C) Findings.

a. On most missions, the presence of a RVNAF observer enhances the surveillance capability of the unit.

b. The flight safety factor would be increased if the RVNAF observers were rated pilots.

c. Missions requiring a US observer cannot be accomplished under present rules of employment.

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ANNEX E

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Monthly Test Report Number 3 — Mohawk

ANNEX F — Objective 6 (Changes in TOE and technical and training literature)

1. (C) Objective.

"To recommend necessary changes to the TOE (Modified), training and technical literature released on the results of the operational evaluation".

2. (C) Discussion.

a. This objective has been interpreted to require:

(1) Recommendations for such changes in TOE as may be deemed necessary in the light of test findings and conclusions.

(2) Recommendations for such changes in technical and training literature as may be deemed necessary in view of test findings and conclusions.

(3) Suggestions concerning new technical and training literature needed to fill gaps in present publications.

b. Matters relating to unit equipment have been and will continue to be treated under Objective 5 in monthly test reports.

c. Consideration of requirements for technical and training literature will be included in the final report.

3. (C) Findings.

None.

ACTIV-AM
Monthly Test Report Number 3 — Mohawk

ANNEX G — Objective 7 (Logistical problems)

1. (C) Objective.

"To determine logistical problems".

2. (C) Discussion.

a. During the past 30 days, the average daily availability rate for 23rd SWAD aircraft has been 4.4 — 94% of the working flight. A total of 461 flight hours was recorded during the same period. Graphs of daily aircraft availability and flight hours are at Annex N (Graphs N-1 and N-2).

b. Parts usage for the 1349.9 hours flown since the unit arrived in the Republic of Vietnam is shown in Report N-3 (Annex N).

c. Detailed records maintained for a five-day period by each member of the 23rd SWAD assigned to aircraft maintenance duties show that six maintenance hours were required for each flying hour (Report N-4, Annex N). Aircraft armament specialists spent one additional man-hour per flight-hour in servicing the armament systems. As these data were maintained for only a five-day period, these ratios are not considered to be conclusive. They do, however, represent a general order of magnitude of maintenance required and substantiate previous findings that the Mohawk is relatively easy to maintain under field conditions.

d. Two aircraft were struck by enemy fire during this reporting period. Details are given in Report N-5, Annex N.

3. (C) Findings.

No change from Report Number 2.

ACTIV-AM
Monthly Test Report Number 3 -- Mohawk

ANNEX H -- Report on aircraft presumed lost.

1. (C) At 1335 hours on 10 January 1963, Mohawk 61-2704 took off from Qui Nhon Airfield on a visual observation mission in Phu Yen Province. Mission: to search the area 10 kilometers on each side of a line between BQ770470 and BQ988530 and the quadrilateral area formed by BQ940570, BQ980570, BQ940520, and BQ980520 for VC activity or installations.

2. (U) The crew consisted of 1st Lieutenance Clayton A. Farmin, 067106, USA, and 2d Lieutenant Nguyen Ngoc Suu, 103057, ARVN. Estimated time enroute for the mission was two hours and 30 minutes; the aircraft should have returned to its base at Qui Nhon by 1605. The fuel aboard would have been exhausted at 1750.

3. (C) 23d SWAD SOP requires that the pilot notify either the unit operations office at Nha Trang or the flight team duty officer at Qui Nhon, via FM radio, whenever he will not return on or prior to his filed ETA. When Mohawk 2704 did not return by 1605, the flight team duty officer made several attempts to contact it by radio; all attempts were unsuccesful. AT 1630, he notified the 23d SWAD operations officer at Qui Nhon that the aircraft was overdue. ASOC III was notified at 1705, and all available Mohawks and an ACTIV U-6 began an air search. At the same time, Headquarters 9th Division was notified and asked to check all units to determine if the aircraft had been sighted or if any unit had been in radio contact with it.

4. (C) 2d Air Division initiated a coordinated search immediately after being notified. This search was continued, with negative results, until 1800 on 15 January. The total air search effort for the five-day period included:

US Army:	84 aircraft;	228 sorties;	532.9 hours.
USAF:	33 aircraft;	49 sorties;	160.7 hours.
VNAF:	16 aircraft;	17 sorties;	35.2 hours.

5. (C) Approximately 500,000 reward leaflets were dropped on 14 and 15 January, and a reward message was broadcast over an airborne loud-speaker system.

6. (C) Several fruitless leads were investigated during the search. As of 15 January, it was known only that:

a. The aircraft departed Qui Nhon at 101335 January.

b. A unit of the 15th ARVN Infantry, located in Phu Yen Province, reported radio contact with a Mohawk between 101330 and 101400 January, during which the ARVN observer reported that the aircraft was working in the area and was about to move to the west but would return in a few minutes.

c. There have been no further confirmed visual sightings or radio contacts with the missing aircraft.

ANNEX H (continued)

7. (C) a. Control of aircraft is a command responsibility. This incident is illustrative of the way in which this responsibility is carried out by an aviation tactical unit whose aircraft habitually operate at altitudes at which radar flight following cannot be maintained. It is noteworthy that, based on unit SOP, a communications search was begun within 30 minutes after the aircraft was overdue and that an air search was begun by the 23d SW.D when the aircraft was an hour overdue, even though at that time it still had enough fuel for another hour of operation.

b. It is recognized that employment of aircraft in pairs would reduce the possibility of an aircraft being lost without trace. For greater tactical effectiveness, however, Mohawks are normally employed singly. This point of tactics is discussed in paragraph 2c, Annex D.

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ANNEX H

ACTIV-AM
Monthly Test Report Number 3 — Mohawk

ANNEX I — Reports from II Corps US advisory personnel.

ATTACHMENTS:

ANNEX I

UNITED STATES ARMY
MILITARY ASSISTANCE ADVISORY GROUP, VIETNAM
II VN CORPS DETACHMENT
Pleiku, Vietnam

MAGTN-IIC 18 January 1963

SUBJECT: Mohawk Operations

TO: Chief, ACTIV

In response to questions posed by ACTIV the responses listed below are submitted. They are based on observations and experience developed at Corps level. (Questions numbered as shown on questionaire).

5. Tactical result of Mohawk operations:

a. In the area of Mohawk operations what is the pattern of VC incidents compared to preceding periods? Insofar as records are available show by tables or graphs the VC incident records by months for the past year broken down by frequency, size, type, daylight or darkness.

RESPONSE: The pattern of VC activity for Phu Yen and Binh Dinh Province (area of Mohawk Operations) for the past year is as follows:

Phu Yen

	J	F	M	A	M	J	J	A	S	O	N	D
Propaganda	2	6	5	3	6	14	7	7	3	0	0	3
Commo Sabotage	1	8	4	9	7	0	1	0	1	4	4	0
Harassments	3	7	8	14	32	17	21	20	19	21	12	12
Atrocities	20	15	17	7	26	12	11	13	9	10	3	6
Ambushes	0	2	2	3	4	3	2	6	3	1	0	1
Totals:	26	38	36	36	75	46	42	46	35	36	19	22

Binh Dinh

Propaganda	9	12	4	10	3	15	26	19	9	6	17	17
Commo Sabotage	5	0	0	1	9	0	6	1	3	8	3	2
Harassments	6	11	18	16	14	35	58	37	23	36	47	26

Letter I-1
ANNEX I

MACTN-IIC
SUBJECT: Mohawk Operations (Cont'd)

Binh Dinh

	J	F	M	A	M	J	J	A	S	O	N	D
Atrocities	16	15	19	11	7	32	14	15	9	18	25	16
Ambushes	2	4	5	1	3	4	4	2	4	5	3	10
Totals	38	42	46	39	36	86	108	74	48	73	95	71

II Corps does not keep records of incidents broken down by size, daylight or darkness, however, an educated guess would be that approximately 75% of VC incidents occur during the hours of darkness.

b. In your opinion what has been the contribution of Mohawk operations to the VC pattern indicated in paragraph 5a above. Explain the basis for your conclusions.

RESPONSE: Throughout II CTZ there has been a reduction in VC activity during 1962. There are many factors which have contributed to this reduction; "Clear and Hold" operations, increased US aid, the Strategic Hamlet Program, the CIDG Program, increased ARVN training and resources, a critical VC food shortage, more timely and accurate intelligence and increased air support, just to mention a few. Since all of these factors have been active simultaneously, it is impossible to attribute a proportion of the reduction in the incident rate to any one factor. Quite obviously, the Mohawk program has made a significant contribution to the counter-insurgency effort. The rapid production of aerial photographs has been the basis of many successful operations and a few air strikes. The reduction in incidents along the Trans-Vietnamese Railroad can be directly attributed to Mohawk surveillance because no other program has been applied to the problem since the decline in incidents began. Heliborne operations have been more successful recently because landing zones were reconnoitered by Mohawk aircraft.

c. Have Mohawk operations had impact on the response and effectiveness of the unit which you advise?

(1) If Mohawks have provided any information of combat intelligence value, what percentage of area intelligence obtained from all sources can be attributed to the Mohawks?

RESPONSE: A limited but definite amount of area intelligence can be obtained from Mohawk operations. Locations of VC village settlements, crops, and supply dumps have been developed on a limited basis. The majority of intelligence obtained is strictly of a combat intelligence nature and most useful at division level and below.

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ANNEX I

MAGTN-IIC
SUBJECT: Mohawk Operations (Cont'd)

(2) Do Mohawk operations provide any type information which cannot usually be obtained from other intelligence sources?

RESPONSE: Mohawks do provide information which cannot be obtained from other intelligence sources. Rapid photo coverage cannot be obtained from other sources available to II Corps. Mohawks fly at low altitudes necessary to practical operation in dense jungle areas. Speed, relative silence of the engine and protection available to the pilot contribute to the effect of this low level reconnaissance and thereby permit the development of intelligence not otherwise available.

(3) What means have been used to verify information obtained from Mohawk operations?

How accurate was the Mohawk information?

RESPONSE: Limited scale ground operations have resulted from Mohawk operations, but these have occurred almost entirely from division level. Limited examples of area intelligence such as VC crops and supply installations have proven relatively accurate in the opinion of the ARVN Corps G-2, (See para 5 below).

(4) If intelligence obtained from Mohawk operations was used for planning ARVN operations, give examples which show the specific contribution of the Mohawks.

RESPONSE: Operations based on intelligence obtained by Mohawks occur almost exclusively at division level because of the nature of the intelligence developed.

(5) Have ARVN leaders of the supported unit expressed any opinions regarding the effectiveness of Mohawk operations?

RESPONSE: II Corps ARVN G-2 is known to highly respect results of Mohawk operations. He is very impressed with the Mohawks and the intelligence gained from them. He said, once you understand their limitations, i.e., not capable of large area coverage, the Mohawk support is invaluable. He further stated that as an observation type aircraft, the Mohawk is the finest he has ever seen. The operation conducted in the Dak Bot area SE of Pleiku, which commenced on 10 January 1963, was based on intelligence gained from interpretation of photos taken by Mohawk aircraft. The operation proved that the intelligence was accurate as VC contact was made during the early stages of the operation.

(6) Suitability of the Mohawk for tactical area surveillance. List limitations or capabilities of the Mohawk which affects the quality of support provided.

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RESPONSE: (a) Communication: FM Radio capabilities of the Mohawk have been extensively utilized. With the US pilot and ARVN observer in the aircraft communications between MAAG Advisors in the field and their headquarters, (MAAG) is readily available. This provides rapid reliable communication in the event of emergency situations in the field.

(b) The ARC-44 radio, with its wide range of FM frequencies permits multi-purpose missions. The ARVN observer makes routine radio checks with all ARVN units, installations and outposts as it operates in the vicinity of these troops.

(c) Photo Capability: The short reaction time of the Mohawk unit to take photographs and deliver them to requesting unit has resulted in greatly improved intelligence gathering and provides an excellent means of confirming information collected by other agencies. In addition, many details which go unobserved during visual observation are immediately apparent on photographs.

(6) Suitability of Mohawk for Tactical Area Surveillance.

a. Speed Range. The speed range of the Mohawk is considered adequate when aircraft are operating in close proximity of supported units. However, when support is required by adjacent units a much higher cruise speed would be useful. For example when support is required in the 22d Div area (Kontum, Pleiku) one hour flight time is required for aircraft operating from Nha Trang and 45 min. for aircraft operating from Qui Nhon. However, this is easily compensated for by the Mohawk unit's ability to decentralize aircraft location and control the key areas of interest of priority.

b. Endurance: Generally the endurance of the Mohawk is adequate. An increased endurance of one to two hours is desirable for isolated mission requirements at extended distance from base of operations.

c. Photographic Capability.

(1) The inclusion of a nose or forward looking camera is a requirement. This is especially true when photos are to be used in conjunction with heliborne operations. Photos intended for pilot orientation of routes and landing zones do not show terrain as it will appear when taken from the side and are of very limited value.

It is not intended to imply that engagement by fire should be the primary mission of these aircraft, only that in a guerrilla warfare situation, time available for reaction by present fire support, either artillery or close air is insufficient to achieve acceptable results on established enemy forces. Mohawk offers ability to find, fix and fight enemy, a capability not inherent in any other support vehicle currently engaged in VN.

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MAGTN-IIC
SUBJECT: Mohawk Operations (cont'd)

d. Communications: Communications equipment available on the Mohawks is complete and if any serious limitations exist they are most probably attributable to the existing ground equipment.

e. Flare Drop: Present flare drop capability is inadequate. However, it is understood that additional equipment has been requested which will greatly extend present capability. When flare carrying capability matches TOT endurance, the flare dropping capability will be adequate.

(7) What type VC activity has been detected from Mohawk photographs and visual sightings?

RESPONSE: The value of VC activity detected by either visual or photographic has been of limited value at Corps level but some area intelligence such as structures, crops and supply installations has been noted by both means.

(8) Doctrine, procedures, tactics and techniques.

a. Comment on the effectiveness of the direct support mission assignment with direct request channels to the Mohawk unit.

RESPONSE: D/S Mission with Direct Request Channels. Assuming an adequate availability of Mohawk aircraft to permit this type mission assignment, on a priority basis at least, it is considered to be the most acceptable method of employment. Responsiveness of the aviation unit to the Tactical Commander requirements is a major element in determining the successful accomplishment of the assigned mission. Any other method of employment will, of necessity, increase time required between request and mission completion. In addition, personnel of a supported and supporting unit automatically develop necessary elements of team work and understanding of the problem at hand essential to complete and rapid mission accomplishment. This method of employment has significantly reduced reaction time over current standards existing in VN. Reaction time of Mohawk is consistently less than other aircraft primarily because the channels through which the request must be processed are held to a minimum as a result of direct support.

Thru VNAF Air Request Channels (ASOC). See comments above. Not considered as effective mainly because numerous channels and centralized approach would delay reaction time and slow responsiveness.

b. (For Division and Separate Regiment Advisor). Is all air or aviation activity with the tactical zone or sector coordinated within the TOC or FSCC of the Div or Regt?

RESPONSE: Normally accomplished at division level.

c. What procedure is used for briefing and debriefing Mohawk crews?

RESPONSE: Normally accomplished at division level.

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ANNEX I

MACTN-IIC
SUBJECT: Mohawk Operation (cont'd)

d. Should information obtained from Mohawk operations be furnished directly to the supported unit intelligence office or should this information be evaluated and disseminated by a central air intelligence agency?

RESPONSE: Information obtained thru Mohawk operations should be furnished directly to the supported unit. The value of intelligence is largely determined by its timeliness. It can be assumed that supported units will ask for information within their areas of responsibility, and therefore they would have primary interest. Well established channels exist for the processing of intelligence, with supporting documents, to the next higher headquarters. Intelligence developed is almost entirely of a tactical nature and therefore should not be sent to a centralized agency but rather to the lowest tactical headquarters responsible for the zone in which the aircraft is operating.

(9) Additional Comment. If the "rules of engagement" established for Mohawk operation in South VN should be amended to permit US pilots assigned to helicopter companies to fly as observer on certain missions, an additional means of Mohawk employment could be utilized. This would be a weather check into area of operations for heliborne operations. The expense of helicopter operations dictates that these weather checks be made prior to the helicopters departing home station, whether carrying troops or enroute to loading area. Experience obtained from a number of helicopter operations has shown that when marginal weather conditions exist, only an experienced helicopter pilot, well aware of individual pilot capabilities within his unit, can adequately determine if the operation is feasible or if a weather delay is required. Simple reporting of ceiling (MSL) and visibility is inadequate. When it is considered that the helicopter, troops and VMAF aircover are all standing by, frequently at several different locations, waiting on this weather check, the need for speed is apparent. The majority of helicopter operations within II Corps are scheduled for early morning departures. This precludes to a major extent the take-off of L19 at an earlier hour. Another situation where it becomes extremely desirable to have a helicopter pilot fly as observer is in the role as helicopter element leader. This officer generally has performed a reconnaissance of the area and has selected certain landing zones. No other pilot has seen these zones, and it is the responsibility of the officer to lead the helicopters into the area and then mark the LZ's for the helicopter. In addition, he has the responsibility for marking areas, from which the helicopters are receiving ground fire, for VMAF fighter to fire suppressive fire. At present this mission is being flown in L19 without protective equipment of any kind and is being flown over enemy troops at low levels to permit marking of area with hand thrown smoke grenades. This officer has the responsibility of protecting all the helicopters by insuring that areas are accurately marked so that fighters can fire essential suppressive fire. Needless to say, he takes extreme risk to insure the protection of the helicopters and crews. The Mohawk, with armor plating and bullet-proofed windshields certainly offers the pilot and observer far greater protection and with marking rockets could do a better job.

/s/Hal D. McCown
HAL D. MCCOWN
Colonel, Inf
Senior Advisor II Corps

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ANNEX I

47TH REGIMENT ADVISORY TEAM
Phu Yen Province

15 January 1963

SUBJECT: Report on Operations of OV-1 Aircraft in Support of 47th Regiment

TO: Chief, ACTIV

1. Purpose. To evaluate effectiveness of support by OV-1 aircraft of the 23rd Special Warfare Aviation Detachment (Sur) rendered to 47th Regiment during operation "Sea Swallow II" in Phu Yen Province. A detailed analysis of each mission flown was not recorded; however, remarks herein reflect the concerted opinions of American Advisors and their counter-parts.

2. General. In early October 1962, the supporting unit effected liaison with this team; briefed key personnel on unit capabilities and aircraft capabilities and limitations, and provided the advisory team with an AN/GRC-46 radio and radio operator as a means of communication. The 23rd SWAD is located in Nha Trang, approximately 110 kilometers south of the Regimental Command Post. The first mission requested was on 25 October 1962. Since the mission of the Regiment was changed on 1 January 1963, no requests were submitted after that date.

3. Coordination. Mission requests were forwarded by radio teletype to the supporting unit. When detailed coordination was required, which was the normal case, aircraft would land at Tuy Hoa airfield, adjacent to the Regimental Command Post, and receive a briefing on the situation and requirements from an advisor. Coordination was effected at a time chosen by the supported unit. Since pilots were, for the most part, ground arms officers, they were capable of understanding fully the unit requirements. To be able to coordinate with support aircraft "on the spot", at the desired time and have requirements understood, is a refreshing experience not often enjoyed. These actions further served to instill confidence of ground commanders in aerial surveillance support.

4. Communications and Reaction. The means for requesting missions proved highly successful. Teletype messages were dispatched quickly. When required, aircraft would land at Tuy Hoa for a mission briefing thirty (30) minutes after the message was dispatched. (This impressed Vietnamese counter-parts particularly, since they had been accustomed to very long reaction time, delays and "No-shows" by VNAF aircraft

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stationed at the same airfield). It is noteworthy that in every instance Mohawks were prompt in reporting for missions. Air-Ground communications were excellent and elicited several good comments from unit commanders. The aircraft was able to respond to requests from ground units operating in VC controlled territory and appear over the enemy quickly, gaining surprise on an enemy, adept at passive defense. On occasion, aircraft acted as an effective means of communications relay when no other means were available.

5. Day Photography. Photographic missions included coverage of specific landing sites for helicopters, possible landing sites in a given area coverage, and search, find and photograph VC installations and troop dispositions in larger areas. Photographs were promised to be delivered to the unit in as little as two (2) hours. No requirements existed for such speed however, and photos were delivered from four (4) hours to two (2) days after initiation of the request. In all instances delivery to the unit was within the desired time frame. Pictures were of good quality normally and depicted the desired information. Photo missions assisted the unit greatly in developing ground operation plans, air landing plans, and on occasion were the basis for submitting air strike requests and the firing of artillery. (Again, the Vietnamese were very impressed. Two (2) requests for photo coverage were submitted through Air Force channels. The first was fulfilled after more than three (3) months. The second, initiated in early November, has not as yet been fulfilled.) While conducting an area search, a pilot spotted and photographed several VC installations, some under construction, which would not otherwise have been found for a very long period of time. Air strikes have been requested on these installations which are located in the Northwest corner of the Province, deep in VC controlled territory. (The Regimental S-3 states that the strikes were conducted; a week later however, there is no indications in the records of this. Post-strike analysis was not performed by VNAF surveillance aircraft.) Inasmuch as there appears to be a reluctance on the part of the Vietnamese to conduct aerial surveillance deep into VC controlled territory, the only reliable means of aerial surveillance available to this unit is the Mohawk aircraft.

6. Armament. The Mohawks are now armed with two (2) machine guns for protection of the aircraft and crew against Viet Cong ground fire. This represents only a fraction of the full capability of the aircraft for self-defense, and allows the American pilot to protect himself "only a little bit". Either one fires in self-defense or one does not fire. The volume of fire does not appear to be politically significant; but is very definitely significant in the protection of a valuable American pilot and aircraft. It is my opinion that fractional arming invites the possible loss of American lives and aircraft to an enemy on which no firing restrictions are imposed.

7. Conclusions. To be of effective use to the ground commander, air support must, as a minimum be responsive and willing. The initial

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reaction time must coincide with the ground commander's requirements. In counter-insurgent operations, the planning time is often short; the target fleeting. In order to respond to requirements of units operating on foot, aircraft must be capable of communicating with back-pack radios and the pilot must be able to understand the situation and needs of a ground unit. The aircraft must be capable of getting to and from the target area quickly and accomplishing the mission requirements of the ground unit supported. The personnel of an aviation unit must be willing to share hardships and dangers with the ground unit and willing to exercise to a maximum, their initiative and specialized ability as well as the capabilities of their machinery. The 23rd SWAD has met these mission requirements with the OV-1 aircraft to the satisfaction of this unit.

8. Recommendations. That the OV-1 aircraft of the 23rd Special Warfare Aviation Detachment (Sur) be fully armed.

/s/Wiley McGarity
/t/WILEY McGARITY
Major Inf
Senior Advisor

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ANNEX I

QUESTIONAIRE FOR MOHAWK TEST

INSTRUCTIONS:

IT IS REQUESTED THAT THE FOLLOWING QUESTIONAIRE BE COMPLETED AS OF 15 JANUARY 1963 BY THE SENIOR ADVISOR TO THE FOLLOWING UNITS:

9TH DIVISION
II CORPS (FOR SUPPORT OF CORPS UNITS OTHER THAN THOSE ABOVE).

YOUR ANSWER TO THESE QUESTIONS WILL PLAY AN IMPORTANT PART IN THE FINDINGS OF THE MOHAWK TEST. ANSWERS SHOULD BE AS DETAILED AS POSSIBLE, AND PROVIDE FULL COVERAGE, BOTH PRO AND CON, OF ALL POINTS APPLICABLE TO THE SUPPORT PROVIDED YOUR UNIT.

1. ADVISORY POSITION TITLE: Senior Advisor, 9th Infantry Division.

2. NAME: Victor M. Anido, Jr RANK: Colonel

3. HOW LONG HAVE YOU OBSERVED 23D SWAD OPERATIONS (MONTHS)? ONE (1).

4. WHAT TYPE MISSIONS HAS THE 23D SWAD PERFORMED FOR SUPPORT OF THE UNIT TO WHICH YOU ARE AN ADVISOR? (FROM FLT TM LDR).

a. DAY VISUAL OBSERVATION OR SURVEILLANCE: YES X NO __ NR MISSIONS 103

b. NIGHT VISUAL SURVEILLANCE YES __ NO X NR MISSIONS 0

c. DAY PHOTOGRAPHY YES X NO __ NR MISSIONS 41

d. NIGHT PHOTOGRAPHY YES __ NO X NR MISSIONS 0

e. NIGHT ILLUMINATION YES X NO __ NR MISSIONS 5

f. ADJUSTMENT OF ARTILLERY FIRE YES X NO __ NR MISSIONS 9

g. LEAFLET DROP YES X NO __ NR MISSIONS 7

5. TACTICAL RESULT OF MOHAWK OPERATIONS:

a. IN THE AREA OF MOHAWK OPERATIONS WHAT IS THE PATTERN OF VC INCIDENTS COMPARED TO PRECEEDING PERIODS. INSOFAR AS RECORDS ARE AVAILABLE SHOW BY TABLES OR GRAPHS THE VC INCIDENT RECORDS BY MONTHS FOR THE PAST YEAR BROKEN DOWN BY FREQUENCY, SIZE, TYPE.

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QUESTIONNAIRE FOR MOHAWK TEST (Cont'd)

	PROPAGANDA	HARRASSMENTS	AMBUSHES	COMO SABOTAGE	ATROCITIES	TOTALS
March	4	18	5	0	19	46
April	10	16	1	1	11	39
May	15	35	4	0	32	86
June	19	32	4	3	20	78
July	26	58	4	6	14	108
August	19	37	2	1	15	74
September	9	23	4	3	9	48
October	11	8	3	1	11	34
November	16	5	3	1	13	38
December	14	6	7	3	8	38

Since the G-2 advisory section was not activated until early April, records for January and February are not available.

b. IN YOUR OPINION WHAT HAS BEEN THE CONTRIBUTION OF MOHAWK OPERATIONS TO THE VC PATTERN INDICATED IN PARAGRAPH 5a ABOVE. EXPLAIN THE BASIS FOR YOUR CONCLUSIONS.

There has been a definite decrease in VC harassments as shown in the above paragraph. This can be attributed to the operations of GVN armed forces which in this area encompasses the use of Mohawk aircraft, which coincided. Therefore, any attribution of the reduction in the incident rate to the employment of Mohawk aircraft alone is virtually impossible. In one incident, however, the VC were interdicting the railroad at the time the Mohawk was in the area. Due to the action taken by the Mohawk, the VC were not able to confiscate the supplies.

c. HAVE MOHAWK OPERATIONS HAD IMPACT ON THE RESPONSE AND EFFECTIVENESS OF THE UNIT WHICH YOU ADVISE?

Yes. The response time and accuracy inherent in this unit has had definite impact on the immediate response and effectiveness of past operations.

(1) IF MOHAWKS HAVE PROVIDED ANY INFORMATION OF COMBAT INTELLIGENCE VALUE, WHAT PERCENTAGE OF AREA INTELLIGENCE OBTAINED FROM ALL SOURCES CAN BE ATTRIBUTED TO THE MOHAWKS?

15%. Again this is a difficult element to reduce to a statistic, but I feel this is a valid estimation.

(2) DO MOHAWK OPERATIONS PROVIDE ANY TYPE INFORMATION WHICH CANNOT USUALLY BE OBTAINED FROM OTHER INTELLIGENCE SOURCES? YES. IF YES, CITE SPECIFIC EXAMPLES.

Photographs of certain areas can be obtained in less than 12 hours. These photographs give the G-2 up-to-date information on VC units and activities within a certain area. Photos from one mission showed 6 - 8 VC carrying supplies at BS 889198. On 14 December 1962, another mission was flown

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QUESTIONAIRE FOR MOHAWK TEST (Cont'd)

which revealed VC structures and trails assisting materially in planning and determining objectives on one operation. This information was essential and was obtained prior to the time the operation started.

(3) WHAT MEANS HAVE BEEN USED TO VERIFY INFORMATION OBTAINED FROM MOHAWK OPERATIONS?

When verification was needed of information obtained from photographs taken by the Mohawk a message was sent to TOC and Sub-Sector. This message included the coordinate and what information was required for verification. Sub-Sector upon receiving the message, infiltrates informants into the area to confirm the information.

HOW ACCURATE WAS THE MOHAWK INFORMATION? GIVE EXAMPLES.

Mohawk information has been very accurate. This is due to the fact that the majority of the information desired from photographs are VC activities in an isolated area. The bivouac areas that were photographed revealed structures that were unquestionably built by the VC. For example, photo missions 1; 3; 62-11-231; 12-12-293 and 62-12-333 revealed VC structures which in some cases were surrounded by fields of corn and rice.

(4) IF INTELLIGENCE OBTAINED FROM MOHAWK OPERATIONS WAS USED FOR PLANNING ARVN OPERATIONS, GIVE EXAMPLES WHICH SHOW THE SPECIFIC CONTRIBUTION OF THE MOHAWKS.

On a clear and hold operation the area of operation for ground units are assigned by geographical locations. After an area is assigned, photographs are used to develop objectives. One example is the operational area around the Nuoc Sang river where photographs were taken. These photographs revealed several structures built by the VC which were determined to be important storage and living facilities. The areas in and around these structures were assigned as objective areas for the tactical elements during the operation.

(5) HAVE ARVN LEADERS OF THE SUPPORTED UNIT EXPRESSED ANY OPINIONS REGARDING THE EFFECTIVENESS OF MOHAWK OPERATIONS? IF IN WRITING ATTACH THE DOCUMENT: IF ORAL, GIVE THE SOURCE AND SUMMARIZE THE COMMENTS.

See inclosure 1.

(6) SUITABILITY OF THE O-HAWK FOR TACTICAL AREA SURVEILLANCE. LIST LIMITATIONS OR CAPABILITIES OF THE MOHAWK WHICH AFFECTS THE QUALITY OF SUPPORT PROVIDED.

(a) Speed Range. The maximum speed permits the Mohawk to quickly travel to and from the target so the information collected can be delivered to the G-2 for processing into intelligence with the minimum delay. The slower speed enables accurate surveillance of the target.

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QUESTIONAIRE FOR MOHAWK TEST (Cont'd)

(b) Endurance. Missions requested by this detachment have been flown with little or no difficulty from limitations of the aircraft.

(c) Photographic capability. Photo scales requested have been received. The Mohawk is capable of taking exceptional photographic coverage of pin-point targets, but not of a large area. Along with receiving the desired scale, the rapidity by which the photographs are received by the G-2 is the greatest asset of the Mohawk photography.

(d) Armament. Armament of the Mohawk are presumed to be adequate if restrictions placed upon the use of armament were removed.

(d) Communications. Communications are adequate. The Mohawk has the capability of contacting ground units which they are supporting.

(7) WHAT TYPE VC ACTIVITY HAS BEEN DETECTED FROM MOHAWK PHOTOGRAPHS AND VISUAL SIGHTINGS?

(a) Visual. The major sightings of VC activities were bovouac areas which were photographed. In one case several VC were spotted carrying supplies. On the same day, what appeared as a VC supply and infiltration point on the coast was spotted.

(b) Photographs. VC bovouac areas have been photographed. In one area photographs at regular intervals were taken to follow the construction of a VC installation. Also photographs were taken of damage to railroad caused by VC demolitions activity, bridges damaged by VC, and what appeared as the infiltration and supply point on the VC mentioned in 7a.

(8) DOCTRINE, PROCEDURES, TACTICS AND TECHNIQUES.

(a) COMMENT ON THE EFFECTIVENESS OF THE DIRECT SUPPORT MISSION ASSIGNMENT WITH DIRECT REQUEST CHANNELS TO THE MOHAWK UNIT.

It has proven to be the most effective means for the employment of supporting aviation for our situation within the tactical limitations imposed on the Mohawk aircraft.

WOULD YOU PREFER TO HAVE MOHAWK SUPPORT FURNISHED THROUGH VNAF AIR REQUEST CHANNELS (ASOC)? WHY?

Negative. The delay in time and space is obvious as would be the lack of familiarity with the terrain and tactical situation which would increase the briefing requirements adversely.

(b) (FOR DIVISION AND SEPARATE REGIMENT ADVISORS). IF ALL AIR OR AVIATION ACTIVITY WITH THE TACTICAL ZONE OR SECTOR COORDINATED WITHIN THE TOC OF FSCC OF THE DIVISION OR REGIMENT?

Yes, at the FSCC.

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QUESTIONAIRE FOR MOHAWK TEST (Cont'd)

IF ANSWER IS YES IS THERE A REQUIREMENT FOR A SEPARATE AIR CONTROL FACILITY NOT UNDER THE ZONE OR SECTOR COMMANDER TO PROVIDE COORDINATION OF AIR OR AVIATION ACTIVITY?

Negative, since this negates the inherent advantages of direct support aviation.

(c) WHAT PROCEDURE IS USED FOR BRIEFING AND DEBRIEFING MOHAWK CREWS?

1. By radio with supported ground maneuver elements.

2. Orally at the FSCC for specific missions for visual surveillance.

IS THIS PROCEDURE SATISFACTORY? Yes.

(d) SHOULD INFORMATION OBTAINED FROM MOHAWK OPERATIONS BE FURNISHED DIRECTLY TO THE SUPPORTED UNIT INTELLIGENCE OFFICE OR SHOULD THIS INFORMATION BE EVALUATED AND DISSEMINATED BY A CENTRAL AIR INTELLIGENCE AGENCY.

Obviously to the supported unit intelligence officer. He is the most interested party concerned with obtaining immediate intelligence.

s/WILLIAM H. VICKOFF, Lt Col
for VICTOR M. ANIDO, JR
Colonel, Infantry
Senior Advisor

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ANNEX I

CONFIDENTIAL

MAAG TRANSLATOR GROUP LOG Nr 160
PAGE 1 OF 1 COPY 1 OF 2

REPUBLIC OF VIETNAM
DEPARTMENT OF DEFENSE
II CORPS
9th INFANTRY DIVISION
DIVISION ARTILLERY
Nr 001/75/PB/2C

OBSERVATIONS CONCERNING USE OF THE MOHAWK AIRCRAFT IN THE 21st DTA.

******* *******

APO 4494, 14 Jan 63

1. DEFICIENCIES:

a. Although this type of Aircraft is used in Armed Air Reconnaissance, it is only authorized to fire when fired on by the VC. This causes a loss of time on the battlefields of VIETNAM as when a concentration or movement of VC are spotted by observer Aircraft, only an immediate attack is effective, that is why we must have armed reconnaissance.

b. The aircraft flies fairly fast when compared with observer capabilities (at present observers are not very effective).

2. Advantages:

The MOHAWK aircraft has been used in the following missions:

- Protection of vehicle convoys, railroad trains, heliborne operations.
- Visual reconnaissance
- Photographing suspected small areas.

In the 21st DTA the MOHAWK Aircraft has helped infantry units on the ground in missions which previously required the use of 3 different types of aircraft:

- Observation = L-19
- Strafing = AD-6 or T-28
- Aerial Photography = B-26

Therefore, the MOHAWK Aircraft could replace all of the 3 above (three-in-one)

3. RECOMMENDATIONS:

a. When VC are spotted attack immediately.

b. Add rockets so the plane can be used as a replacement for the AD-6 or T-28 when necessary (sometimes when air support is needed it is very slow in being supplied, and the MOHAWK could be used as emergency air support.

Major NGO TRUNG HIEN
CO, 9th Infantry Division
Concurrently 21st DTA Arty
/Signed/

ADDRESSEES:
- Hqs., 21st DTA
- MAAG (Qui nhon)

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CONFIDENTIAL

HEADQUARTERS
9TH INFANTRY DIVISION ADVISORY DETACHMENT
U.S. ARMY MILITARY ASSISTANCE ADVISORY GROUP
Qui Nhon, Vietnam

MAGTN-QN 18 January 1963

SUBJECT: Effects of Mohawk Program on the 9th Division Advisory Effort

TO: Commanding Officer
23rd Special Warfare Aviation Detachment (Surv)

1. In addition to the obvious advantages of the tactical support provided by the Mohawk for combat operations is the important effect of this aircraft on the American advisory effort with the 9th Division. The ability of the Mohawk unit to immediately react to the ground commander has facilitated the instruction of ARVN commanders in the use of air support. It has provided a means of broadening the scope of thinking of commanders and staffs by telescoping time for reconnaissance and providing detailed studies of sparsely mapped terrain. Because of positive reaction to requests the Mohawk has helped to develop ARVN confidence in the air request system. The newly formed regimental fire support coordinating centers are getting excellent training in the coordination of air observation and reconnaissance.

2. The fire support coordinators' enthusiasm for Mohawk support, and thus air support in general, is spreading throughout the artillery. Infantry company commanders have developed a positive respect for artillery, in part due to Mohawk employment. The ability of the forward observer with the company to talk in his native tongue with the ARVN observer in the aircraft for close observation support, or for radio relay for artillery fire, has been a tremendous asset in the development of the feeling of team play necessary between artillery and infantry.

3. The presence of Vietnamese observer gives the aura of "we are doing it ourselves" which is developing aggressive confidence in senior and small unit commanders. This capability of ostensibly removing the English speaking advisor from the chain of operation is very important in developing ability in the ARVN for subsequently operating without American supervision.

4. The mere presence of a Mohawk in the vicinity of enemy contact has raised the morale and individual effectiveness of the infantry soldier. A case in point is one of the many VC harrassing attacks in the village of Bien Hoa in early November. The 14th Regt was operating approximately 30 km from Bien Hoa when a small security force left behind was attacked. A Mohawk on another mission was contacted by the regiment commander and diverted to the emergency area. Immediate radio

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UNITED STATES ARMY
MILITARY ASSISTANCE ADVISORY GROUP, VIETNAM
II VN CORPS DETACHMENT
Pleiku, Vietnam

MAGTN-IIC 20 January 1963

SUBJECT: Mohawk and C-47 Flare Ship Operations

TO: COMUS MACV
ATTN: JOEG-V

1. a. Refer MSG MAC JOEG-V 0262.

b. MAGTN-IIC-C1-26.

2. The following are replies to message para 1 a above:

a. Mohawk aircraft was requested at 032015 Jan 63 and was requested by the II Corps Commander through SR Advisor II Corps. Mohawk aircraft was temporarily stationed at Pleiku in event further attacks by VC occurred at Plei Mrong CIDG Training Center (Reported in OPSUM 03). Channel of communication was directly from Senior Advisor II Corps to Mohawk pilot.

b. The request for VNAF C-47 aircraft was submitted at 032015 Jan 63 for TOT at 2200 by II Corps Deputy Commander to VNAF II Corps ASOC, to JOC. TOT was later changed to 2300 because of availability of Mohawk. Another C-47 had been stationed at Pleiku during daylight of Jan 3 but had returned to its base, Tan Son Nhut, on the afternoon of 3 January.

c. The arrival time of the Mohawk over the target area was 032050 Jan 63 while the arrival time of the VNAF C-47 over the target area was 032240 January.

d. The VNAF C-47 flare ship did not land at Pleiku as it flew directly from Tan Son Nhut to target area, expended the flares and returned to Tan Son Nhut, since this was most expeditious means to complete the mission.

e. Both flare missions were successful. Flares were dropped by Mohawk between hours of 2050 and 2240 on 3 January and were dropped by C-47 between 2240 3 January and 0200 4 January. Both aircraft dropped flares in correct area.

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MAGTN-IIC
SUBJECT: Mohawk and C-47 Flare Ship Operations

f. Mohawk responsiveness was deemed to be particularly outstanding. Primarily the capability of the 23rd Avn Detachment to temporarily station Mohawk aircraft close to areas where VC action is expected was most effective. This permitted rapid and efficient utilization of the aircraft by requesting unit. Furthermore, the Mohawk pilot was requested to take off Pleiku Airstrip during hours of darkness. Strip was lighted only by six jeeps. Pilot readily agreed to this relatively hazardous assignment. On previous night (02-03) Jan, another VNAF C-47 flare ship had been also temporarily stationed at Pleiku but, pilot stated inability to take off during the attack on Plei Morong CIDG Training Center without complete lighting of the strip. On 3 January this VNAF C-47 returned to Bien Hoa even though a second attack on Plei Mrong was considered probable.

g. Mohawk aircraft returned to Pleiku after mission terminated while the C-47 returned to Tan Son Nhut.

h. Mission of Mohawk was terminated because of arrival of C-47. C-47 mission was terminated because it had expended all flares aboard aircraft.

/s/Hal D McCown
/t/HAL D MCCOWN
Colonel, Inf
Sr Advisor, II Corps

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ANNEX I

ACTIV-AM
Monthly Test Report Number 3 — Mohawk

ANNEX J — Railway security reports

ATTACHMENTS

This page regraded
UNCLASSIFIED when separated
from classified inclosures.

RAIL ADVISORS MONTHLY REPORT (U)

RAIL SEC ADV
STUDIES AND ANALYSIS BR
O&T DIV, USASEC, MAAG
SAIGON

RAIL SEC ADV
II ZONE
NHA TRANG

1 JAN 62

1. (K) NUMBER OF INCIDENTS IN ZONE:
   A. RAILS REMOVED OR SEPARATED 5*/**
   B. MINING OF TRAIN 1*/
   C. TRAIN DERAILMENT 2*
   D. TELEGRAPH LINE CUT 2*
   * ONE RAIL REMOVAL RESULTED IN DERAILMENT OF ARMORED PATROL TRAIN. THIS RAIL REMOVAL WAS ONE OF THREE CONSIDERED TO BE ALL SAME INCIDENT IN SUPPORT OF VC ATTACK ON LONG THANH VILLAGE.
   BOTH TELEGRAPH LINES WERE CUT AS PART OF ACTION BY VC IN DERAILING TRAINS.
   ** TWO RAIL REMOVALS OCCURED ON SAME DATE IN SAME AREA AS PART OF ONE INCIDENT.

FOR THE MONTH OF DECEMBER 1962, A TOTAL OF 3 INCIDENTS.

DAMAGE	WPNS OR EQUIP LOST	PILFERED	BURNED
432 METERS OF RAIL 50 METERS RAIL DESTROYED 950 METERS TELEGRAPH LINE 8 RAILROAD CARS 1 GENERATOR (FREIGHT) 10 TONS ENGINEER EQUIPMENT	NONE	NONE	NONE

VC
KIA: UNKNOWN - WIA: UNKNOWN

GVN
KIA: NONE - WIA: 5*
WIA INCLUDES ONE CIVILIAN RAILWAY EMPLOYEE. ALL INJURIES FROM MINE DETONATION OR SUBSEQUENT DERAILMENT.

2. (K) CURRENT STATUS OF:
   A. EQUIPMENT AND SUPPLIES: THE 962ND AND 963RD CG COMPANIES HAVE RECEIVED THEIR 3/4 TON TRUCK WITH TRAILER.
   B. WEAPONS:
   963RD CG COMPANY IS SHORT 9 GERAND, M-1 RIFLES.
   625TH CG COMPANY IS SHORT 6 BAR'S AND 3 PISTOLS, CAL 45.
   954TH CG COMPANY, NO KNOWN CHANGE IN STATUS OF WEAPONS.

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ANNEX J

C. PROJECTS:

(1) SANITATION PRACTICES IN THE UNIT AREAS HAVE BEEN GREATLY IMPROVED. WITH COMPLETION OF A SOAKAGE PIT IN NHA TRANG MAXIMUM SANITATION WILL HAVE BEEN ACHIEVED IN THE NHA TRANG AREA WITH AVAILABLE RESOURCES.

(2) BASED ON THE ACQUIRED SKILL OF WICKHAM TROLLEY DRIVERS IN TUY HOA, THE PLAN FOR INSTALLATION OF SALVAGE TIRE SHOCK ABSORBERS HAS BEEN DROPPED. THE RAILROAD REFUSED TO ALLOW MILITARY PERSONNEL TO MAKE INSTALLATION, REFUSED TO SEND A RAILROAD REPRESENTATIVE TO MAKE INSTALLATION, AND REQUESTED THAT WICKHAM TROLLEYS BE BROUGHT TO THAP CHAM FOR NECESSARY INSTALLATION. PROJECTED ARRIVAL OF A NEW WICKHAM TROLLEY PATROL AT NHA TRANG WITH RELATIVELY INEXPERIENCED DRIVERS IN THE NEXT FEW WEEKS MAKES IT MORE ADVISEABLE AT PRESENT TO INSTALL SAID SHOCK ABSORBERS ON THIS NEW WICKHAM TROLLEY PATROL AS IT PASSES THROUGH THAP CHAM ENROUTE TO NHA TRANG.

(3) THE LEAFLET DROP PROGRAM HAS NOT BEEN IMPLEMENTED IN THE II ZONE. THERE APPEARS TO BE SOME CONCERN ON AUTHORIZED SCOPE OF ACTIVITY.

D. TRAINING:

962ND CG COMPANY - ALL PERSONNEL OF THIS COMPANY, WITH THE EXCEPTION OF THE WICKHAM TROLLEY PATROL, PRESENT FOR DUTY, RECEIVED REFRESHER WEAPONS TRAINING ON ALL WEAPONS DURING DECEMBER.

963RD CG COMPANY - ALL PERSONNEL OF THIS UNIT ASSIGNED TO THE ARMORED PATROL TRAIN RECEIVED TRAINING ON THE 60MM MORTAR.

625TH CG COMPANY - ALL PERSONNEL OF ONE PLATOON OF THIS COMPANY RECEIVED TRAINING ON USE, MAINTENANCE, AND EMPLOYMENT OF LMG, 30 CAL.

E. ASSIGNED TROOPS:

UNIT	ASSIGNED	PRESENT	ABSENT
625TH CG COMPANY	120	102	18 - TRAINING IN SAIGON AND SICK.
962ND CG COMPANY	116	97	19 - TRAINING IN SAIGON AND SICK.
963RD CG COMPANY	106	88	20 - TRAINING IN SAIGON.

3. (C) ACCOMPLISHMENTS DURING MONTH:

A. REQUESTED AND RECEIVED AUTHORITY FOR A FIRING AREA FOR AIRCRAFT IN KHAM HOA PROVINCE. THIS AREA WAS REQUESTED FOR 23RD SW AVN DET, WAS NOT USED, AND HAS NOW BEEN RELEASED AGAIN TO THE PROVINCE. CHANGE IN FIRING RANGE FOR PROVINCE REQUESTED BUT DENIED.

B. FIFTY-ONE, 50 CAL, MG'S DRAWN FROM DEPOT FOR ARMORED CARS THIS ZONE.

C. 23RD SW AVN DET DROPPED FLARES FORTY-FIVE MINUTES IN FRONT OF NIGHT TRAIN NIGHT OF 27 DEC 62, AS PART OF A TRAINING EXERCISE.

D. SUB-SOC II OFFERED THE MILITARY RAILWAY SECURITY SERVICE ONE L-28 FOR USE AS AN OBSERVATION AIRCRAFT IN THE II ZONE RAILWAY SECURITY.

E. DEVELOPED A SYSTEM TO INSURE THAT TROOP LIVING AREA IN

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NHA TRANG WILL BE SPRAYED WITH DDT AT LEAST TWICE A MONTH.

4. (K) PROJECTS, NEW:

A. TO USE THE SUB-ASOC L-28 AS AN AREA SURVEILLANCE AIRCRAFT BETWEEN VAN CANH AND LA HAI AS WELL AS THACH THAN AND DIA LANH STATIONS. SAID AIRCRAFT WILL BE ASSIGNED FOUR MISSIONS PER WEEK. IT IS TO BE UNDERSTOOD THAT THESE MISSIONS WILL IN NO WAY REDUCE THE REQUIREMENT FOR SUPPORT BY THE 23RD SW AVN DET AND THAT UNDER NO CIRCUMSTANCES WILL A MOHAWK TRACK PATROL BE DIVERTED OR CANCELLED AS A RESULT OF AN L-28 MISSION. THE LIMITATIONS OF THIS AIRCRAFT HAVE BEEN POINTED OUT TO SUB-ASOC AND THEY HAVE STATED THAT THEY WOULD LIKE TO USE THIS AIRCRAFT FOR SUCH MISSIONS.

B. WITH IMPROVING WEATHER CONDITIONS IN THE II ZONE THE 23RD SW AVN DET WILL BE ASKED TO CONDUCT NIGHT TRAIN SURVEILLANCE MISSIONS ON A LIMITED SCALE DURING THE PERIOD 5 JANUARY - 16 JANUARY 1963.

C. CONTINUE TO WORK ON PROJECT FOR PURSUIT OF VC. A DETAILED DISCUSSION OF VARIOUS AVENUES OF COOPERATION BETWEEN THE MRSS AND TACTICAL UNITS WAS HELD IN QUI NHON DURING DECEMBER WITH THE G-3 ADVISOR, 9TH DIVISION. SIMILAR DISCUSSIONS WILL BE RENEWED WITH ALL SECTOR ADVISORS II ZONE DURING JANUARY.

D. CONTINUE TO WORK TO PLACE SOME TYPE OF ANTENNA ON ALL ARMORED CARS IN II ZONE.

5. (K) PROBLEM AREAS:

A. THIS ZONE STILL DOES NOT HAVE SUFFICIENT AN/GRC-9'S OR CW RADIO OPERATORS TO MEET ITS SECURITY REQUIREMENTS. THE ATTACK ON TRAIN NR 2334 AND THE SLOW RECEIPT OF INFORMATION ON THE ATTACK FOR BOTH 10 OCTOBER AND 21 DECEMBER 1962 IS EVIDENCE THAT IMMEDIATE ACTION IS NECESSARY TO PLACE AN AN/GRC-9 AND OPERATOR ON THIS TRAIN.

B. SHORTAGE OF PERSONNEL.

C. INADEQUATE COMMUNICATIONS SYSTEM BETWEEN DIEU TRI STATION AND QUI NHON.

6. (K) RECOMMENDATIONS:

A. THAT IMMEDIATE ACTION BE TAKEN TO OBTAIN THE AN/VRC-9, -10, and -18 RADIOS REQUESTED FOR AIR-TO-GROUND COMMUNICATIONS IN THIS ZONE. THESE RADIOS WILL GREATLY ENHANCE SECURITY OPERATIONS THROUGH MAXIMUM EFFECTIVE UTILIZATION OF AVAILABLE AIR SUPPORT.

B. THAT II ZONE BE PROVIDED NECESSARY AN/GRC-9 RADIOS FOR EFFECTIVE OPERATIONS WITH ESCORTED TRAINS AND ARMORED PATROL TRAINS.

C. THAT TR-20, MRSS FREQUENCY, BE INSTALLED IN THE MRSS OFFICE QUI NHON TO ENHANCE COMMUNICATION BETWEEN THE DIEU TRI AND QUI NHON STATIONS.

D. THAT AN EFFORT BE MADE TO OBTAIN AUTHORITY FOR THE MOHAWK TO USE ITS WEAPONS CAPABILITY IN THE EXECUTION OF ITS RAILWAY OBSERVATION AND SURVEILLANCE MISSION.

E. THAT THE CIVILIAN RAILWAY BE REQUIRED TO PLACE A SEARCH-LIGHT ON THE LEAD FLATCAR OF EACH ARMORED PATROL TRAIN. IT IS

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BELIEVED THAT THE DERAILMENT NORTH OF MUONG MAN 6 DECEMBER 1962 COULD HAVE BEEN AVOIDED IF THE TRAIN HAD BEEN EQUIPPED WITH A STRONG ELECTRIC OR GAS LIGHT ON THE LEAD FLATCAR.

7. (K) COMMENTS:

A. THE DECREASE IN INCIDENTS IN THIS ZONE DURING DECEMBER 1962 HAS BEEN NOTICEABLE. DURING NOVEMBER ALL INCIDENTS OF IMPORTANCE OCCURED AT NIGHT OR IN THE VERY LATE AFTERNOON. DURING DECEMBER ALL INCIDENTS WERE EARLY MORNING OR DAY TIME INCIDENTS.

B. IT IS BELIEVED THAT THE DAILY AIR SURVEILLANCE AND OBSERVATION MISSIONS EXECUTED BY THE 23RD SW AVN DET HAVE BEEN LARGELY RESPONSIBLE FOR THE DECREASE IN INCIDENTS. THE SUDDEN APPEARANCE OF THE MOHAWK AT THE TRAIN INCIDENT OF 21 DECEMBER 1962, RELIEVED THE PRESSURE ON THE TRAIN AND, I FEEL, SURE CAUSED THE ATTACKING UNITS TO WONDER HOW THE AIRCRAFT COULD HAVE BEEN ALERTED AND ARRIVED SO RAPIDLY AFTER THE MINE DETONATION. EVERY EFFORT SHOULD BE MADE BY MRSS TO INSURE THAT THE POSSIBLE REORGANIZATION OF MILITARY ELEMENTS DOES NOT DEPRIVE THE MRSS OF THIS VERY VALUABLE ARM OF AIR SUPPORT. THESE AIRCRAFT ARE IMMEDIATELY RESPONSIVE TO THE MRSS.

C. AS PREVIOUSLY REPORTED VNAF ADVISORS HAVE EVINCED A GROWING INTEREST IN THE MRSS AIR OBSERVATION AND SURVEILLANCE MISSIONS AND HAVE STATED THAT TO AND FROM MISSION THEY WILL FLY THE RAILROAD; HOWEVER, TO DATE - WITH THE EXCEPTION OF TWO L-28 FLIGHTS BETWEEN BEN HOA AND NHA TRANG - THERE HAS BEEN VERY LITTLE IF ANY SUCH SUPPORT. FIGURES ON SUCH SUPPORT HAVE BEEN REQUESTED FROM VNAF ADVISORS ON TWO SEPARATE OCASSIONS. REPORTS FROM MRSS PERSONNEL DOES NOT INDICATE THAT SUCH MISSIONS ARE BEING CARRIED OUT EXCEPT AS REQUESTED FOR TRAIN ESCORT.

/s/Lewis N. McGuyre
/t/LEWIS N. MCGUYRE
Major, MPC
Rail Sec Adv, II Zone

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ANNEX J

PRIORITY 21/1010Z

PRIORITY

FR: RAILWAY SEC ADV, II ZONE

TO: RAILWAY SEC ADV
STUDIES AND ANALYSIS BR
O&T DIV, USASEC, MAAG
SAIGON

INFO: SR ADV, II CORPS
ATTN: G-3, ADVISOR
PLEIKU

ESCORTED, NORTH BOUND,
VC MINED TRAIN NR 2334/AT KM 1027.6(BR891/869 AT 1130 HOURS, 21 DEC 62. ONE ARMORED CAR, AND TWO FREIGHT CARS OFF TRACKS AND LAYING ON SIDE. ONE ARMORED CAR WITH TWO WHEELS OFF RAILS AND ONE FREIGHT CAR WITH FOUR WHEELS OFF RAILS. 2 MEMBERS OF ESCORT GRAVELY WOUNDED AND EVACUATED TO BONG SON. NO OTHER INJURIES, NO FREIGHT LOST, NO WEAPONS OR EQUIPMENT LOST.

MOHAWK OBSERVED DERAILED TRAIN AT APPROXIMATELY 1230 HOURS WHILE RETURNING FROM MISSION. ESTABLISHED CONTACT WITH TRAIN AND RELAY INFORMATION TO QUI NHON SUB-SONE HQS AT APPROX 1240 HOURS. TRAIN ESCORT DID NOT HAVE AN ANGRC/9 AND HAD NOT ESTABLISHED RADIO CONTACT PRIOR TO CONTACT WITH MOHAWK BY ANPRC/10.

MOHAWK TOOK PHOTOGRAPHS OF DERAILMENT AT 1440 AND NEGATIVES WERE READ AT 1615 HOURS. ONE CAR APPEARS TO BE A TOTAL LOSS AND ARMORED CAR IS LAYING ON SIDE COMPLETELY OFF RAILS. LOCOMOTIVE WITH EIGHT CARS PROCEEDED TO BONG SON.

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ANNEX J

RAIL INCIDENT REPORT, 1130 HOURS, 21/12/62 (U)

RAILWAY SEC ADV
STUDIES & ANALYSIS BR
O&T DIV, USASEC, MACG
SAIGON

RAILWAY SEC ADV
II ZONE
NHA TRANG

27 DEC 62

1. (U) ATTACHED AS INCLOSURE NR 1 IS ONE COPY OF "EEI - RAIL INCIDENTS", ON INCIDENT THAT OCCURED 21 DEC 62.

2. (U) ATTACHED AS INCLOSURE NR 2 IS A PHOTOGRAPH OF DERAILMENT OF TRAIN NR 2334, 21 DEC 62.

3. (U) ATTACHED AS INCLOSURE NR 3 IS A SERIES OF PHOTOGRAPHS OF DERAILMENT OF TRAIN NR 2334, 21 DEC 62.

4. (C) REFERENCE IS MADE TO THE CLASSIFIED RTT MESSAGE (C) ON RAIL INCIDENT, 1130 HOURS, 21 DEC 62, IN WHICH IT WAS STATED THAT THE MOHAWK AIRCRAFT FIRST SITED THE INCIDENT AT APPROXIMATELY 1230 HOURS. MEMBERS OF THE ESCORT STATE THAT THE MOHAWK FIRST PASSED OVER THE DERAILED TRAIN AT APPROXIMATELY 1145 HOURS AND THAT THE TRAIN WAS UNDER ATTACK IMMEDIATELY PRIOR TO THE ARRIVAL OF THE MOHAWK. INFORMATION WAS PASSED TO THE MOHAWK ON THE INCIDENT. PERSONNEL AT DIEU TRI STATION STATE THAT THEY RECEIVED INFORMATION ON THE DERAILMENT OF TRAIN NR 2334 FROM THE MOHAWK "AROUND 1200 HOURS".

/s/Lewis N. McGuyre
/t/LEWIS N. MCGUYRE
Major, MPC
Rail Sec Adv, II Zone

ACTIV-AM
Monthly Test Report Number 3 — Mohawk

ANNEX K — Extracts from aviators' debriefing forms.

The following comments were extracted from aviators' debriefing forms prepared by U.S. Pilots upon the completion of each mission. A veriety of Mohawk missions are described. In some cases the aviators' comments have been edited slightly for clarity.

Mission Nr 62-12-6 Time: 140935 - 141135 Dec 62

Mission: Day photographs of quadrilateral areas in Phu Yen Province.

The following observations were made: 50 cattle at BQ 745675, Villages at BQ 740715 and BQ 760690. Bamboo anti-helicopter stakes about 50 meters north of Van Hoa and 50 meters south. Approximately one platoon ARVN troops at BQ 785465.

Mission Nr 62-12-8 Time: 141455 - 141750 Dec 62

Mission: Day photographs of quadrilateral areas in Phu Yen Province.

Observer spotted possible VC village consisting of two clusters of 10-20 buildings at coordinates BQ 756669 and BQ 751656. They were very well hidden under the trees and could not be spotted from 3,000 feet. After taking photos proceeded to Tuy Hoa and informed advisory personnel of the hidden village.

Mission Nr 62-12-12 Time: 151455 - 151855 Dec 62

Mission: Day photographs of quadrilateral areas in Phu Yen Province.

Observed and photographed three suspected VC camps five miles NW of target area. Observed several cattle in the area but no people. AT BQ 662957 and BQ 652961 observed cables crossing the river about five feet above the water and attempted to photograph one. The observer suspected the cables are VC commo lines.

ACTIV-AT
Monthly Test Report Number 3 -- Mohawk

ANNEX K -- Extracts from aviators' debriefing forms.

Mission Nr 62-12-17 Time: 201250 - 201450 Dec 62

Mission: Day photographs of multiple areas in the 23d Division Tactical Zone.

Observed a few buildings but no personnel in the target area. Low clouds prevented photo coverage of targets 11, 13, 14, 15, 16, 17. A Jet (100 series) flew around the Mohawk for approximately ten minutes during the mission. It didn't come closer than one-half mile and I was unable to make out its markings.

Mission Nr 62-12-20 Time: 180705 - 181300 Dec 62

Mission: Observation for Heliborne Operation conducted by 47th Regt.

Arrived Tuy Hoa at 0745. Briefed on operation by Major McGarrity. Mission of Mohawks was to observe as helicopters moved into LZ and provide low level observation. Two T-28's proceeded the CH-21's into the landing area and delivered fire into an open field and departed. I conducted low level observation until 1200 when the ceiling and visibility lowered. The second lift of the CH-21's was not completed. Observed local population and cattle in the target area. No weapons or resistance observed. Two suspected VC were observed running from the valley into the hills at BQ 785682.

Mission Nr 62-12-38 Time: 240930 - 241220 Dec 62

Mission: Day photographs in Phu Yen Province.

Enroute to the photo target observed a village burning and approximately one battalion of ARVN troops in the vicinity. Radio contact was made with Council 3 (US Advisor) and an "all well" message received. After an exchange of Christmas greetings he requested I check Tuy Hoa for some CH-21's. There was only one CH-21 at Tuy Hoa but was unable to reestablish contact with Council 3 to inform him. Completed the photo mission as indicated on the overlay; however no road existed from BS 300238 to BS 266239. The entire area is very mountainous and the existing trail is blocked, washed away and the bridges are out in many places.

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ANNEX K

ACTIV-AM
Monthly Test Report Number 3 — Mohawk

ANNEX K — Extracts from aviators' debriefing forms.

Mission Nr 62-12-41 Time: 260825 - 261100 Dec 62

Mission: Day photographs in Phu Yen Province.

Observed smoke at CQ 310004 which appeared to be coming from a boat being burned on the beach. South of Target 1 at BQ 620720 saw approximately 10 people under a hut. I circled to take a photograph and saw women with children on the photo pass; the rest of the people had hidden. Took photos of numerous villages vicinity BR 4010. All villages were occupied and people ran for cover when they saw the Mohawk.

Mission Nr 62-12-49 Time: 280900 - 281240 Dec 62

Mission: Day photographs in Kontum Province.

Arrived in the target area at 0955 and observed a 4 engine aircraft circling in the area at 500 feet. I called Pagoda Control and asked if they knew the aircraft was in the area. Pagoda had no information on the large aircraft and asked me to check it. It looked like a DC-6, had no markings and its fuselage doors were off. I gave this information to Pagoda and received a "Roger". The aircraft remained in the area for one hour. I did not see it departure.

Mission Nr 63-1-4 Time: 020730 - 021200 Jan 63

Mission: Visual observation and artillery adjustment - Pleiku Province.

Briefed at Pleiku by Major Tillery and proceeded to coordinates YA 965755. Observed and adjusted artillery fire on a suspected VC supply point at that point. The observer requested fire on a complex of buildings, foxholes and bamboo anti-helicopter stakes, resulting in five buildings destroyed or damaged. The artillery was very slow. The mission took 45 minutes. Along the road between ZA 060690 and ZA 076745 many trees had been fallen across the road as obstacles. Observed a VNAF air strike at ZA 065770 and took photos of the target area, a village, after the strike was completed.

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ANNEX K

ACTIV-4M
Monthly Test Report Number 3 — Mohawk

ANNEX K — Extract from aviators' debriefing forms.

Mission Nr 63-1-7 Time; 021400 - 021745

Mission: Visual observation and artillery adjusted - Pleiku Province.

This was a continuation of Mission Nr 63-1-4. I requested the howitzers be moved so as to be able to reach the target at YA 965756. The artillery was moved but were still firing at maximum range. Dispersion was so bad there were no direct hits on any buildings although I observed several near misses. Approximately 25 rounds were fired. Three buildings were seen in the edge of a clearing at the above coordinates which looked like storage buildings. There were foxholes and bamboo stakes on the cleared side of the buildings.

Mission Nr 63-1-44 Time: 071720 - 071850 Jan 63

Mission: Immediate request for observation to check out a report that a Ranger Co at BQ 965652 surrounded by 300 VC.

Request arrived at 23d Operations at 1700. Take off was 1720 after a briefing by Capt. Shedden. Arrived on station at 1740. Approximately 5 to 10 minutes later a VNAF L-19 arrived and also orbited the target area. At 1800 Lt Stone in another Mohawk arrived in the area. I made several low passes and saw no humans in the vicinity of the coordinates given me. I did see a small black dog which resembled a fox terrier, two T-28's arrived in the area about 1825. After their arrival I returned and landed at 1850.

(Editor's comment - Further checking by ground units disclosed that the original report which generated the mission was in error and the Ranger Company had not in fact been attacked.)

Mission Nr 63-1-13 Time: 042130 - 042215 Jan 63

63-1-14 042240 - 042325 Jan 63

Mission: Night illumination.

I was notified of the mission at 2045 and was briefed by several II Corps advisors. Take off was from Pleiku strip. The only light used was the aircraft landing light since this field does not have runway lights.

ACTIV-AM
Monthly Test Report Number 3 -- Mohawk

ANNEX K -- Extracts from aviators' debriefing forms.

I arrived over the target area, ZA 035725 and dropped three flares at 15 minute intervals, then returned to Pleiku and landed by the light of 4 vehicles parked further up the runway. The landing was accomplished easily, however, the landing light could not be used prior to round out due to a light haze in the area. The GCI site (Pagoda) provided radar vectoring to the general target area. The radar vector was accurate enough so that the first flare was close enough to the target area to be of value. Subsequent flares can be adjusted by radio from ground units. The flares were dropped from 4500 feet MSL. Mountain peaks in the area are approximately 5000 feet MSL. The turn around time to load four flares was 25 minutes. Four more flares were dropped. During this second sortie an attempt was made to adjust artiller. The section (2 - 155mm howitzers) had only 4 illumination rounds and would not shoot anything but smoke. The observer explained that we could not see smoke at night. Artillery fire continued but I had to move away because I could not determine if the fire was adjusted from the ground and could not identify the target area. I was relieved on station by a C-47 flare ship at approximately 2325. I was informed that the C-47 had been requested at the same time that I had been notified, approximately 2045.

Mission Nr 63-1-26 Time: 061005 - 061205 Jan 63

Mission: An immediate mission to land at Tuy Hoa to be briefed.

Request arrived at 23d Operations at 0940. Took off at 1005 and arrived at Tuy Hoa South at 1025. A MAAG advisor arrived about one minute later and briefed us on the visual search area. A VNAF L-19 marked the target with red smoke. Both myself and Hawk 9 made repeated passes in the area without detecting any activity. About one hour later three T-28's arrived and fired rockets at the location designated by the L-19. Just prior to this I contacted Council 5 (US Advisor) by radio and informed him that no activity could be detected and that the T-28's were going to deliver fire. The Mohawks were then cleared to return to Nha Trang.

Mission Nr 62-12-306 Time: 171125 - 171535 Dec 62

Mission: Report to Tuy Hoa South to provide observation for heliborne operation.

Dropped off film at Nha Trang enroute to Tuy Hoa. After landing at Tuy Hoa was briefed on the operation. Remained on the ground for two and one half hours waiting for T-28 air cover. Mission cancelled at 1500 because of lack of air cover.

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ANNEX K

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Monthly Test Report Number 3 — Mohawk

ANNEX K — Extracts from aviators' debriefing forms.

Mission Nr 62-12-321 Time: 210930 - 211300 Dec 62

Mission: Observation and artillery adjustment on targets of opportunity in quadrilateral area BS 600300, 740300, 740000, 600000.

Units on the ground said we were fired upon by machine gun fire from BS 660235. We checked this area very closely but no persons were sighted and no defensive fire was returned. Enroute back to Qui Nhon, we passed over a train at BR 880685 which had been mined at 1130. We relayed the position of the train to the railway station at Qui Nhon and to the G-3 advisor, 9th Division.

(Editor's comment - Discussion with the Railway Security Advisor, II Zone, revealed that the Mohawk report was the first word of the incident. The VC had cut out a section of telegraph line at the mine location. The train crew reported that VC fire was broken off when the Mohawk arrived overhead.)

Mission Nr 62-12-339 Time: 271240 - 271645 Dec 62

Mission: Day photo of eight areas suspected to contain VC units or installations and one possible helicopter landing site.

Observed and photographed a well worn trail at BR 615935. One elephant observed about 200 meters north of the trail in tall grass. Mission request received at 270900, photos requested by 281700, photos delivered at 280930.

Mission Nr 62-12-343 Time: 280945 - 281135 Dec 62

Mission: Visual observation of quadrilateral area BR 5091, BR 6491, BS 5002, BS 6402 to locate VC positions.

While observing acted as radio relay between 13th Regt and 14th Regt CP's. The 13th Regt informed the observer that 13 VC's were killed by artillery fire adjusted by a Mohawk observer on 24 December. 2d Bn, 14th Regt requested resupply of food. Passed on this request to the G-3 advisor.

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ANNEX K

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Monthly Test Report Number 3--Mohawk

ANNEX L--Examples of 23d SWAD responsiveness

1. The following examples of responsiveness to immediate requests were obtained primarily from records maintained by the 23d SWAD: mission request forms and aviators' debriefing forms. Some information was obtained from interviews with 9th Division advisory personnel.

a. Example 1:

031255 Nov 62 - Message received at 9th Division CP through Advisor channels that one Company VC attacking one ARVN Company at village BS 763010. Message stated that an air strike had been requested and also requested a Mohawk.

1300 - The 23d SWAD liaison officer with the 9th Division was informed. By FM radio he contacted a Mohawk which was on another mission and located within five minutes flying time of the village under attack and diverted it toward the village.

1305 - The Division G3 Advisor confirmed that an air strike had been requested by the Division TOC, then ordered the Mohawk liaison officer to have the Mohawk approaching the incident location to leave, clearing the area for the air strike. This was accomplished by radio.

1315 - The Mohawk liaison officer called Nha Trang and requested two Mohawks to take damage assessment photos after the air strike.

1400 - Message received that VC had broken contact and were withdrawing to the west.

1435 - The two Mohawks which had been dispatched from Nha Trang landed at Qui Nhon to await the air strike.

1520 - VNAF strike aircraft arrived at the incident area.

b. Example 2:

121515 Nov 62 - 23d SWAD liaison officer at Qui Nhon received a request for one Mohawk to observe and be prepared to adjust artillery fire in the vicinity of BR 772938 where 2 VC platoons were reported to be attacking an SDC platoon.

1518 - Request received by 23d SWAD Operation Officer at Nha Trang.

1530 - Mohawk departed Nha Trang.

1605 - Mohawk arrived in target area, 140 nautical miles from Nha Trang. Aircraft observed in target area with negative results for 45 minutes.

Example 3.

c. 211045 Dec 62 - Mohawk flight team leader at Qui Nhon received request for visual observation in vicinity of BR 876163 where VC were alleged to have withdrawn after attacking an outpost at BR 896160.

1048 - Mohawk in the air on a photo mission was diverted by radio to the target area.

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Examples of 23d SWAD Responsiveness (Continued)

1053 - Mohawk was over the target area.

1100 - A second Mohawk launched from Qui Nhon arrived in the target area.

1115 - T-28's arrived in the area followed by helicopters.

NOTE: - No VC personnel were observed by the Mohawks and it is understood that the troops landed by helicopter did not make contact with VC.

d. Example 4:

060940 Jan 63 - Teletype message received at Nha Trang from the Senior Advisor 47th Regiment at Tuy Hoa requesting two Mohawks to land at Tuy Hoa South airfield immediately. Crews to be briefed there for an immediate mission.

1025 - Two Mohawks landed at Tuy Hoa, 55 nautical miles from Nha Trang.

1035 - Mohawks took off from Tuy Hoa to conduct a visual search of the designated area. A VNAF L-19 from Tuy Hoa marked the search area with a red smoke rocket. After an hour of fruitless search by the Mohawks, three T-28's arrived and fired rockets in the area designated by the L-19.

e. Example 5:

071700 Jan 63 - Teletype message received at Nha Trang from the Senior Advisor, 47th Regiment, requesting one Mohawk provide observation as soon as possible at BQ 965652 where 300 VC were reported to have surrouned a Ranger Company.

1740 - Mohawk arrived over target area, 60 nautical miles from Nha Trang and began a visual search.

1745 - A VNAF L-19 launched from Tuy Hoa arrived in the target area.

1755 - A second Mohawk from Nha Trang joined in the search.

1825 - Two T-28's arrived in the search area and the Mohawks departed. Results of the search was negative.

(Editor's comment: It was learned later that the original report which generated the mission was in error; the Ranger company had not, in fact, been attack.)

2. Comments on the examples.

a. Examples 1 and 2 occured during the period that all Mohawk were based at Nha Trang with a liaison officer with air-ground radio equipment stationed with the 9th Division at Qui Nhon.

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ANNEX L

ACTIV-AM
Monthly Test Report Number 3--Mohawk

Examples of 23d SWAD Responsiveness (Continued)

b. Examples 1 and 3 illustrate the response times which can be attained by providing the capability to divert airborne aircraft to higher priority missions.

c. In none of the examples cited did the Mohawk observe VC in the target area, nor was there any further contact between VC and RVNAF forces after aircraft were overhead. This may indicated the inhibiting effect of aircraft on insurgent movement.

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ANNEX L

ACTIV-AM
Monthly Test Report Number 3 -- Mohawk

ANNEX M -- 23d SWAD request for additional equipment.

This annex consists of a letter, dated 27 December 1962, subject: "Request for Equipment in Excess of Authorized Allowances," from the 23d SWAD to the Commanding General, U. S. Army Support Group, Vietnam. Text follows:

1. A requirement exists within the 23d Special Warfare Aviation Detachment (Survl), to increase the photographic processing and printing capabilities beyond that presently achieved with the one (1) organic photo lab.

2. In accordance with para 6.6, USARYIS SOP for Supply and para 25, AR 735-35, it is requested that the following items be authorized in excess of authorized allowances by TOE 31-500T (Modified):

	RAM ITEM NO.	FSN	DESCRIPTION	QUAN
a.	63014400	6780-731-8747	Photographic Lab, semi-Trailer, MS-22 (XE-3)	1 ea
b.	61294500	NFSN	Darkroom Photographic portable, MS-29	2 ea
c.	63285000	6740-543-4252	Photographic film, Processing Machine, EH-3 (1)	1 ea
d.	N/A	6740-290-6453	Photographic Drier, Print, PH-684B/U	1 ea

3. Justification for the above listed items is given in Annexes A, B, C, and D respectively. Appropriate DA Forms 1546s are included as inclosures.

4. A request for inclusion to TOE 31-500T (Modified) will be processed upon approval of this letter in accordance with the provisions of para 3-39, AR 725-50.

Incls:
Annexes A,B,C,D
DA Form 1546s (Quad)

WILLIAM J MORRIS
Major SigC
Commanding

ANNEX M

SUBJECT: Request for Photographic Laboratory, semi trailer, ES-22(XE-3)

1. The aerial photographic film processed by the 23D SPWAR Avn Det is 5 inch by 100 feet roll film, providing 240 frames when used with the KA-30 aerial camera installed in the JOV-1C Mohawk aircraft. At present the film is developed in a relatively short time in the AN/TFQ-7 photo lab; however, producing a contact print of each of the 240 negatives is done by a time consuming individual manual operation, frame by frame, requiring approximately three (3) to four (4) hours to print one (1) roll of film. Normally, additional prints and/or enlargements of the same roll are needed, and the time necessary to accomplish the work is unrealistic and unresponsive. Currently organic aircraft (six JOV-1C's) are capable of, and are exposing more film per day than the presently authorized photograph processing unit can develop and print in two or three days, depending on number of prints and/or enlargements required per roll. This unit utilimately anticipates a total of ten (10) JOV-1C aircraft which will be employed in aerial surveillance.

2. This unit has an immediate requirement for larger more sophisticated photographic laboratory capable of high speed printing such as the ES-22 (XE-3). This lab would be utilized in conjunction with the AN/TFQ-7 or ES-29 portable photographic labs in turning out high quality multiple prints in a much shorter time than is presently attainable. The end result being delivery of finished prints and enlargements to the requesting agency in the quantity and time frame requested.

3. The requirement for the ES-22 photo lab is not for a new mission, but for a greatly expanded capability of producing aerial photographs in quantity and quality as soon as possible. Experience has indicated that this inclusion to the TOE is applicable to future units of this type and has a world-wide applicability.

4. Disapproval of this request will result in reduced mission accomplishment and inadequate utilization of a sophisticated surveillance aircraft as well as many technically trained personnel.

Incl 1 to
23d SWAD Ltr
ANNEX M

Incl 1 to
23d SWAD Ltr
ANNEX M

SUBJECT: Request for one each Portable Photographic Darkroom

1. TOE 31-500T (Modified) currently authorized one (1) each ES-29 Portable Photographic Darkroom. Present concept of operations for this type unit requires one or two flight teams with two to four JOV-1C aircraft to be deployed from the main body of the unit for periods of 30 days or more. The distances to deployed flight teams are usually 100 to 150 nautical miles, therefore delivery of exposed film to the home field for processing imposes a delay of 3 to 12 hours and sometime several days depending on weather condition, thus making print delivery time unrealistic. Additionally, the requirement to deliver film to the base and subsequent delivery of prints to requesting unit results in reduction of available aircraft time over target and frequently requires dispatch of an additional aircraft to deliver priority prints.

2. The addition of two each ES-29 Portable Darkrooms and the addition of the ES-22 Photographic Laboratory (see Annex A) to the TOE 31-500T (Modified) would enable this unit to employ one each portable photographic darkroom with each of two deployed flight teams thus reducing the time required to process film and return prints to the requesting organization which is usually located at the same location where the flight teams are deployed. The ES-22 Photographic Lab, which has only a high speed printing capability located with the main body of the unit and be used in conjunction with the third Flight Teams ES-29 portable darkroom.

3. The addition of two each ES-29 Photo Darkroom, making a total of three per TOE 31-500T (Modified) is recommended for this unit and future units of this type.

Incl 2 to
29d SWAD Ltr
ANNEX M

Incl 2 to
29d SWAD Ltr
ANNEX M

SUBJECT: Request for one each Photographic Film, Processing Machine, EH-3(1)

1. JOV-1C aircraft organic to this unit have a US Navy (Type AN-N-6A) 16mm motion picture gun camera which is a component of the armament system. The camera is used in training pilots in gunnery procedures by showing hits of rounds fired on training missions, also it is used for verification of combat target hits.

2. At the present this unit posses no capability to process this film. The requirement exists for a capability to process this film immediately after each mission to verify target hits on training and combat missions. This unit has requirement to develop two to three 50 foot rolls of 16mm film per day.

3. It is recommended that the EH-3(1) processing unit be added to TOE 31-500T (Modified). The requested processing unit has a capability of developing, fixing, washing, and drying 16mm motion picture film and can operate in daylight and under adverse temperature conditions. This detachment has personnel capable of maintaining and operating this equipment organic to its TOE.

Incl 3 to
23d SMAD Ltr
ANNEX M

Incl 3 to
23d SMAD Ltr
ANNEX M

SUBJECT: Request for one each Photographic Print Drier, PH-684B/U

1. The requested drier is a component of the AN/TFQ-7 Portable Photographic Darkroom issued in-lieu of a ES-29 which is organic to this unit. In the past this drier has caused considerable time losses due to mechanical failures. Presently this organization has only one photo lab and it remains in continuous use, therefore failure of this drier would drastically increase mission completion time.

2. It is requested that a stand-by or maintenance float print drier be authorized in order to maintain continuous rapid photographic processing capability. A second drier would also double the rate of print drying from 45 prints per hour to 90 prints per hour, this would eliminate the hold-up in processing during peak loads because drying is the slowest process using the AN/TFQ-7 portable photographic darkroom. Presently this unit is processing approximately 8000 plus prints per month.

Incl 4 to
23d SWAD Ltr
ANNEX M

Incl 4 to
23d SWAD Ltr
ANNEX M

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ANNEX N -- Logistical information.

ATTACHMENTS:

Graph N-1 . . . . . Aircraft availability.

Graph N-2 . . . . . Daily flight hours.

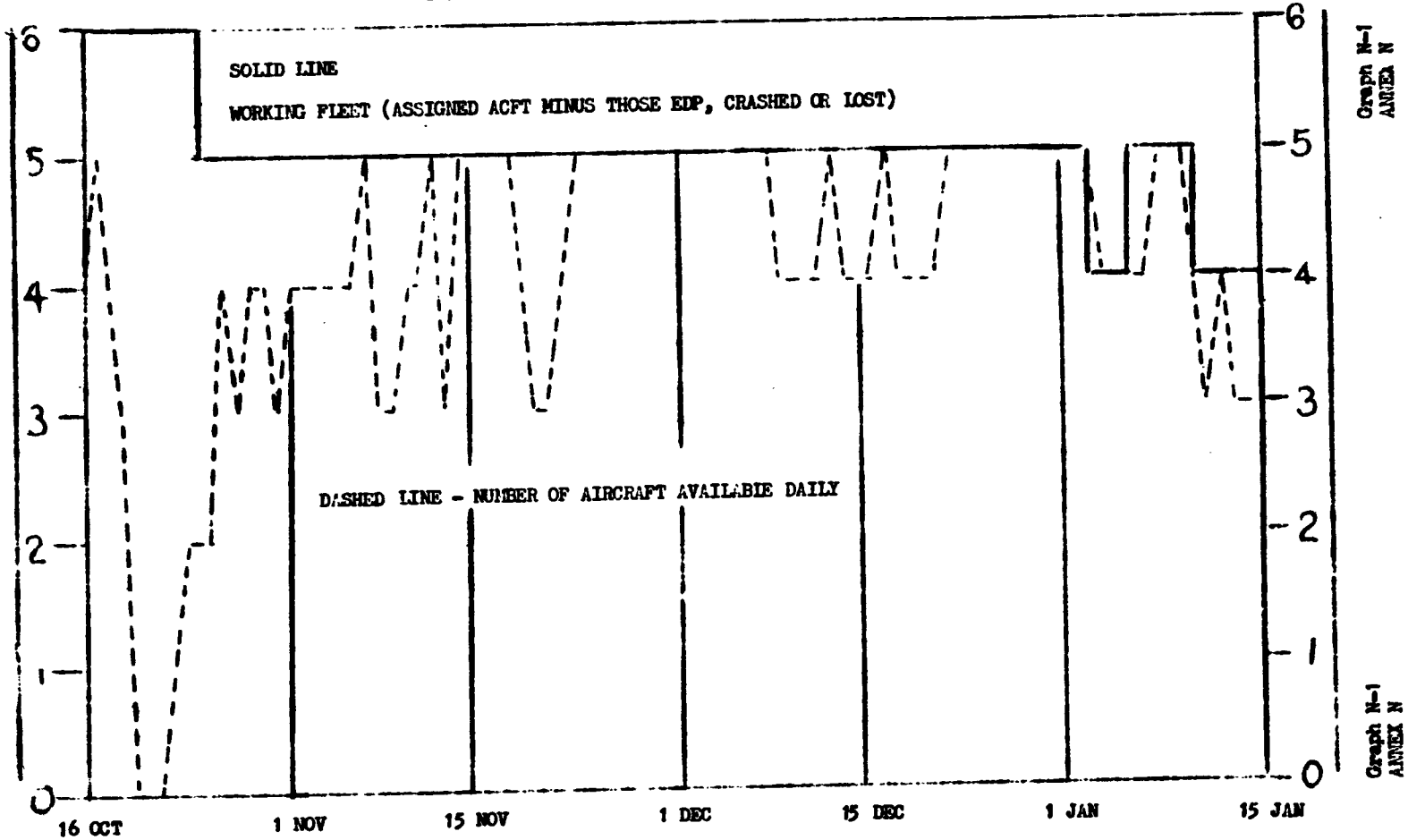
Report N-3 . . . . . Repair parts usage.

Report N-4 . . . . . Maintenance: man-hour/flying hour ratio.

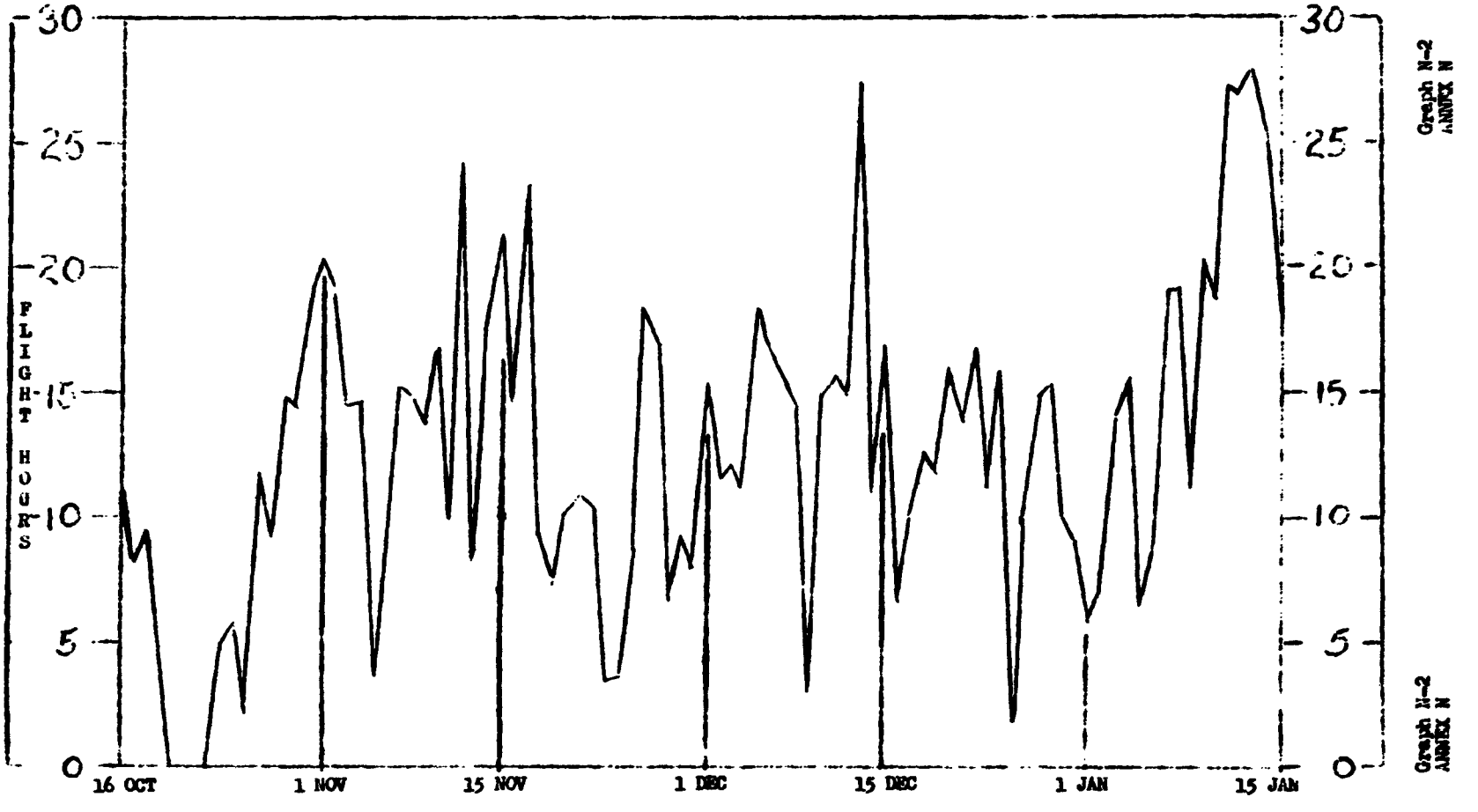
Report N-5 . . . . . Damage from small arms hits.

Regraded UNCLASSIFIED when
separated from classified inclosure.

DAILY AIRCRAFT AVAILABILITY



GRAPH OF DAILY FLIGHT HOURS



ACTIV-AM
Monthly Test Report Number 3 -- Mohawk

Report N-3, ANNEX N. Repair parts usage.

1. Since the test unit arrived in the Republic of Vietnam in September 1962, the six assigned JOV-1C aircraft have flown a total of 1349.9 hours -- 168.9 before 16 October and 1181 during the period from 16 October through 15 January 1963.

2. Parts usage during this period is shown below. The list does not include common hardware items or replacement parts for the aircraft crash-damaged on 19 November 1962.

F.S.N.	NOMENCLATURE	AMOUNT	DEFECT
NSN *890540-03(P/N)	Canopy actuators	2	Leakage
2935-772-5610	Oil coolers	10	Req'd by engine change
2620-772-6468	Tires, main	24	Worn
2620-772-6469	Tires, nose	9	Worn
1630-1723-0249	Brake assemblies	2	Leakage
1630-1723-0250	Brake linings	300	Worn
1560-796-7074	Oil tank	1	Cracked
2915-784-5472	Fuel boost pumps	5	Burned out
1560-1723-0773	Hydraulic Pumps	1	Leakage
1650-772-0374	Main landing gear cylinders	3	Leakage (repaired)
1630-797-8608	Parking brake valve	1	Leakage
1650-776-1958	Speedbrake selector valves	5	Inoperative
2915-775-7184	Fuel controls	3	2 malfunctions 1 fuel contaminatio
N/A	Engines	5	Unknown cause
AN 6235-4A	Fuel control filters	60	Normal usage

Report N-3
ANNEX N

Report N-3, ANNEX N (continued)

AN 6235-3A	Oil filters	42	Normal usage
AN 6235-1A	Hydraulic filters	46	Normal usage
6949D348	Prop dome seals	28	Normal usage
2840-574-6965 2840-475-6967 2840-475-6966	Oil filters seals	62	Normal usage
	Fuel control filter seals	60	Normal usage
1630-797-8604	Brake disk	4	Normal wear
6685-898-1744	EGT. harness (thermocouple)	3	Shorted (5469087G4)
6685-778-8777	Transmitter - Hydraulic	3	
6620-553-8892	Tachometer generator	3	
2840-778-2276	Nut-internal wrenching	5	
(P/N) 1-200-020-28	Engine inspection kit	3	
1560-445-6252	Rear view mirror	3	
1005-300-5541	Gun, charger, H50-AE P/N871134	2	Malfunction
	Harness assembly P/N200-54185	1	Malfunction
	Release bomb rack, AERO 7B-1 DWG # 60A122C8	2	Malfunction
	Combination rack, bomb & rocket- AERO 15C, DWG #58A154R1	1	Malfunction
5841-543-1328	Control amplifier-APN-22	6	
6720-893-4272	Photo system control Unit	2	
6615-486-8072	Gyroscope, ASW-33	4	
5831-682-2703	ICS control C-1611/A1C	2	
6605-098-5309	Gyroscope	2	

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ANNEX N

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Report N-4, ANNEX N. Maintenance man-hours per flying-hour.

1. In order to determine the amount of maintenance time being expended, daily forms were kept for a five-day period by each individual assigned duties in organizational or field maintenance. This form (Inclosure 1) required the individual to list his daily activities and record time spent either as "productive" (direct aircraft maintenance) or as "non-productive" (not direct aircraft maintenance). Duty time of supervisory personnel in Service Platoon Headquarters was excluded to insure that findings would be consistent with the factors used in SB (Department of the Army Supply Bulletin) 1-2 of 5 February 1962. Data obtained are shown in the following table.

DATE	MAN-HOURS ORGN MAINT	MAN-HOURS FIELD MAINT	MAN-HOURS ARMAMENT PERS	DAILY FLIGHT TIME (HOURS)
7 Jan 63	69	68	22	19.2
8 Jan 63	82	13	18	11.2
9 Jan 63	47	10	20	20.0
10 Jan 63	64	24	9	18.5
11 Jan 63	63	133	23	27.5
TOTALS	325	248	92	96.4

2. Maintenance hours represented by the 6 to 1 ration (7 to 1 when armament maintenance is included) were divided as follows:

Organisational maintenance	3.4 hours
Field maintenance	2.6 hours
Armament maintenance	1.0 hours
TOTAL	7.0 hours

3. Analysis of data.

a. The average daily flight time during the period of data collection was 19.3 hours -- slightly higher than the 15.0 hour average for the last 30 days. It was intended that data collection continue over a longer period, but the effort was interrupted by air search operations of 11-15 January; figures for this period would not have been representative inasmuch as daily flight time ran nearly 100% over the norm.

Report N-4
ANNEX N

Report N-4, ANNEX N (continued)

a. The major portion of a periodic inspection was conducted on 11 January. This is reflected in the comparatively high number of field maintenance man-hours for that date. The periodic inspection of Mohawk 61-2707 was begun on 11 January. During the P.E. one engine was changed. The aircraft was test flown and released on 12 January.

c. Because of the short period of data collection, the maintenance manhour/flight-hour ratios shown in paragraph 2 should be viewed with caution. Additional data will be collected to develop experience over a greater time period. Even if subsequent input increases the ratios slightly, Mohawk maintenance will still compare favorably with other Army aircraft as shown by the following table which compares Mohawk ratios from paragraph 2 with ratios for other aircraft shown in SB 1-2.

	ORGN MAINT	FIELD MAINT	TOTAL
OV-1C (Mohawk)	3.4	2.6	6.0
U-6 (Beaver)	4.0	2.8	6.8
U-8 (Seminole)	4.3	1.8	6.1

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ANNEX N

Incl 1
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ANNEX M

M/Sgt McCarthy, Joseph . FLIGHT LINE X FIELD MAINTENANCE DATE 7 Jan 63

AIRCRAFT S/N	START	FINISH	WORK PERFORMED	TOTAL PRODUCTIVE	TOTAL NON-PRODUCTIVE	REMARKS
61-2707	06:15	08:30	Daily Inspection (D.I)	00:30	01:45	Await TakeOff
	08:30	09:30	Police of flt/line		01:00	
	09:30	11:30	Performed maint on MAl unit	02:00		
	11:30	12:30	CHOW		01:00	
61-2709	12:30	13:00	Changed nose wheel	00:30		
	13:00	13:30	Cleaned, repacked, replaced nose wheel bearings	00:30		
	13:30	13:45	Took a break		00:15	
	13:45	15:30	Maint on MAl unit	01:45		
61-2709	15:30	16:00	Serviced aircraft	00:30		
61-2709	16:00	16:30	Serviced nose gear strut	00:30		
61-2709	16:30	18:00	Replaced left drop tank	01:30		
	18:00	18:30	CHOW		00:30	
	18:30	18:45	Await take off of aircraft		00:15	
61-2709	18:45	19:15	Servicing aircraft	00:30		
			TOTAL TIME:	08:15	04:45	

Incl 1
Report M-4
ANNEX M

ACTIV-AM
Monthly Test Report Number 3 -- Mohawk

Report N-5, ANNEX N. Damage from small arms hits.

On 9 January, JOV-1C Nr 61-2706 was struck by one small arms bullet estimated to be .30 caliber. The bullet passed through both speed brakes, from left to right, at station 325, damaging both speed brakes, the left and right inner well panels, and a bulkhead. Temporary sheet metal repairs were made to the damaged bulkhead and left well panel. The other holes were temporarily repaired by routing and covering with cloth tape. Permanent repairs will be made at the next periodic inspection.

On 12 January, JOV-1C Nr 61-2707 was struck by a small arms round which passed cleanly through the aft section of the left engine nacelle. Sheet metal patches were made on the lower and upper skin sheets.

ACTIV-AM
Monthly Test Report Number 3 -- Mohawk

ANNEX O -- Techniques and procedures for photographic missions.

1. (U) General.

This annex records the standard procedures and techniques of aerial photography developed by the 23d SWAD to support counter-insurgency operations in the RVN. It is not intended to be a complete treatise on aerial photography; it is, rather, a description of methods which have survived the test of three months of operations in the specific environmental and operational conditions encountered by the test unit.

2. (C) Mission requests.

a. Photo request form.

The photo request form used by the 23d SWAD is incorporated within a multi-purpose mission request form (Inclosure 1). These forms, which are distributed to units directly supported by the 23d SWAD, provide all necessary information to insure a thorough understanding of mission requirements. In practice, mission requests have been received in several ways: telephone, radio, teletype, and by memorandum. In these cases the unit Operations Officer (Flight Team Leader of a detached team) transcribes this fragmentary information to the standard request form. In many cases it is evident that the requestor did not have the technical knowledge to select the proper type photo or the best scale for his purpose. If the requestor has provided "specific information or results desired" the Operations Officer can usually determine the type photo and scale needed. This is an essential service, since many supported units do not have photo interpreters.

b. Priorities.

Initially, it was considered that two priorities -- routine and immediate -- would be enough, but as the volume of photo missions increased, this priority classification was found to be inadequate. A more suitable system has been adopted by II Corps and in practice has worked out very well. It is a letter classification as follows:

AAA - To be completed as soon as possible; takes precedence over all missions.

AA - To be completed within 24 hours.

A - To be completed within 72 hours.

B - To be completed within one week.

C - To be completed within two weeks.

D - To be completed within one month.

E - No time limit.

c. Action by unit operations.

When a photo request is received it is immediately transcribed on a mission request form (Inclosure 1), recorded in the daily mission log book, and assigned a mission number. The request is then placed in the unassigned mission file or flown immediately, depending on the priority. The mission is ordinarily flown by the duty flight team for the day; if the duty flight team is committed, the mission is flown by the standby team.

3. (C) Planning the mission.

Thorough pre-flight planning is essential for a perfectly performed photo mission. However, for an immediate or "scramble" type mission, there is frequently only time for minimum planning prior to takeoff. Other essential planning must be accomplished by the crew while airborne enroute to the target area.

a. Intelligence briefing on the mission.

Before pre-flight planning is begun, the operations officer conducts an informal briefing for the aviator-observer team. Two of the points covered in this briefing -- weather and the enemy situation -- influence nearly every other consideration in pre-flight planning.

(1) Weather. Usually it is not possible to get an accurate weather report of the target area unless a recent pilot's report is available. Mission planning, therefore, must be based on the last reported weather from the nearest reporting station. If low ceilings are prevalent in the target area, it may be advantageous to use a 3-inch lens cone instead of a 6-inch so that the desired scale may be obtained at a lower altitude. The type of filter to be used is dependent upon the visibility in the target area. A red filter is used in periods of low visibility, otherwise a yellow filter is used in all low altitude photography (below 8,000 feet). Weather also influences the flight route to and from the target.

(2) Enemy situation. The enemy situation is obtained from the latest intelligence reports which are posted on the unit situation map. If heavy insurgent concentrations are reported in the target area, it is usually advantageous to use a 6-inch lens cone. This allows the aircraft to maintain a higher altitude (weather permitting), thereby reducing the possibility of being hit by small arms fire.

b. Proper maps for the mission.

A 1:250,000 scale map has proved to be ideal for navigation to and from the target. A 1:100,000 or 1:50,000 scale map is best for

use in the target area. The desired photo flight lines should be plainly marked on the large scale map. A 1:250,000 relief map is an excellent aid for planning flight routes and approach and departure routes.

c. Type target.

Targets are classified as point, strip, or area type.

(1) Point target. Most of the photographic missions flown by the 23d SWAD have involved point targets. This type target requires the least pre-flight planning; however, unless prominent land marks are available in the area, the specific point is sometimes difficult to locate because of inaccurate and outdated maps. Most of the pre-flight planning for point target type missions is directed toward a method of pin-pointing the target.

(2) Strip targets. These are targets that can be covered in one run along a given route. During pre-flight planning the number of frames required to cover the desired strip must be determined. This depends upon the scale, the length of the route, and the amount of overlap required. These data can be obtained from nomographs in the appropriate TM's; putting the information in chart form (Inclosure 2), facilitates flight planning. In strip photography it often is desirable to have less overlap than the standard 60%. In these cases it is necessary to calculate the exposure interval. This figure is also obtained from a chart (Inclosure 3). Another factor to be considered in strip photography is the number of runs that must be made to cover the curves or irregularities of the route. This normally requires the exposure of extra frames.

(3) Area targets. Area targets are those requiring two or more parallel runs for complete photo coverage. As in strip photography, a primary consideration is the number of frames which must be exposed. Side lap also comes into play; 40% side lap is standard, but a different degree is sometimes required due to the nature of the target or the desire of the requestor. Maintenance of parallel and correctly spaced flight lines is a major problem in area photography. The best technique is to select terrain features at the beginning of each flight line and maintain a constant heading by reference to flight instruments.

d. Focal length and altitude.

Only 3-inch and 6-inch lens cones are available for the KA-30A camera at the present time. Weather and the enemy situation must be considered in choosing the focal length to be used. The 3-inch lens cone gives twice the area coverage of the 6-inch at any given altitude, but it also produces greater distortion along the photo fringes. The longer cone is a good all-purpose lens and should be used whenever possible.

e. Photo mission data sheet.

A photo mission data sheet (Inclosure 4) was designed specifically for use with the Mohawk and the KA-30A camera. It seems to meet the requirements of even the most critical photo interpreter.

f. Terrain and wind.

Flight at a constant altitude is required for constancy of photo scale, but maintaining constant altitude may be difficult above rough or irregular terrain. Generally, the best solution is to determine the altitude to be flown over the highest point in the target area and to maintain this altitude for the entire run. Photos of dense jungle are best taken within one hour of noon time to reduce shadows and increase the possibility of penetrating the foliage. Conversely, photos of anti-helicopter stakes are best made in early morning or late evening, when shadows will aid in identifying the stakes. Wind affects ground speed and track. The pilot must be constantly aware of these factors, and they are especially important on area type missions in which several parallel runs must be made. When possible, area missions should be planned with flight paths parallel to the wind flow; otherwise a crab must be maintained, resulting in reduced lateral coverage. When flight parallel to wind flow is not possible, the flight lines must be closer together.

g. Filling out camera data plate.

Due to the small size of the data plate on the KA-30A camera, only a limited amount of data may be recorded legibly (Inclosure 5). Since photos are normally interpreted with the aid of the mission data sheet, the information on the camera data plate serves mainly as a reference for ordering reproductions. An ideal data recording system should provide a means of recording absolute altitude, heading and time, and the fixed data for each frame.

4. (U) <u>Pre-flight check of photo systems</u>.

a. The practice of leaving the cameras and film in the plane on a "ready to go" basis has been made SOP. Initially it was believed that the high humidity might be corrosive to the camera. After 3½ months of operations, no ill effects have resulted from leaving the camera and film in the aircraft 24 hours a day. The cameras are pre-flighted before every flight by maintenance personnel and are kept in a state of readiness with a full roll of film at all times. Approximately half of the aircraft cameras are equipped with 6-inch lens cones and the other half with 3-inch lens cones. Aircraft assignments are made according to the lens cone which has been selected for the mission.

b. Time permitting, a detailed pre-flight is performed. Immediate missions frequently allow time for only an abbreviated pre-flight

ANNEX O (continued)

The following is considered a minimum check list for the pilot's pre-flight of the photo system.

(1) Camera control system for correct mode and lens cone setting.

(2) Correct S/C setting.

(3) Correct mode set on camera.

(4) Data unit for completeness. (Unit SOP calls for the pilot to fill out the data unit before every mission; photos are often made of targets of opportunity even though the assigned mission does not specify photography.

(5) Lens cover off and correct filter installed.

(6) Cleanliness of lens, filter, camera door windows, light monitor detector, scanner window, and (for night missions) the flash detector.

(7) Correct exposures remaining on the counter.

(8) Correct flares remaining on the counter for night missions.

5. (C) Executing the mission.

a. Flight route to the target.

Navigation to the target area is in accordance with the pre-flight plan modified, as necessary, by actual weather conditions. En-route flight frequently is conducted at low level, to achieve surprise in the target area or to conduct visual observation enroute. In other cases, due to the nature of the target and urgency of the mission, a direct route is flown at 1000 to 3000 feet.

b. Photo run.

In photographing point targets (especially where future operations are planned) it is important that the entry and exit route to the target area be so planned that the photos can be obtained in one pass; a ground observer might then assume that the aircraft was merely passing over the area on a routine flight. An unusual amount of air traffic over a target area may alert the VC and thereby compromise a planned friendly operation. Single pass or minimum-orbiting criteria obviously cannot be applied to damage-assessment or area-type photography.

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ANNEX O

c. Use of flight instruments.

Once a photo run has begun, the pilot should make maximum use of the flight instruments. A constant heading and altitude (MSL) are maintained for each photo run or leg. Over mountainous terrain, where it is impractical to attempt to maintain a constant absolute altitude, the radar altimeter should be used in determining an average altitude above the terrain so that an average can be determined.

d. Recording photo data.

A photo mission is of little value unless certain essential data are recorded. For each run, the flight crew must fill in all the designated spaces on the mission data sheet. Absolute altitude, heading, and target coordinates are of prime importance.

6. (U) Debriefing.

Thorough debriefing is necessary to extract all possible intelligence information from every mission. As soon as an aircraft returns to home base, the US pilot and the ARVN observer are debriefed by the duty officer or the operations officer. When a flight team is operating away from the home base in direct support of an ARVN unit, the US pilot usually is debriefed by the US G-2 Advisor, and the ARVN observer by the Vietnamese G-2 Section.

7. (U) Aviators' Debriefing Form.

The debriefer uses this form (Inclosure 6) as a guide in questioning the crew; he records all pertinent information thereon.

8. (U) Processing the film.

a. Removing film from camera.

The camera maintenance specialist meets the incoming aircraft, takes the exposed film from the camera, and delivers it to unit operations. Operations personnel attach the necessary mission data to the cassette and send it to the photo lab.

b. Developing.

The film is developed in a B-5 tank in the standard manner. After the negatives have been dried, the roll is put on the contact printer for viewing and numbering. Usable negatives are numbered consecutively with black grease pencil. Numbering designates the sequence of the prints and provides a handy reference for ordering prints.

ANNEX O (continued)

c. Printing process.

Printing is the most time-consuming phase of processing, primarily because of the small capacity of the print drier in the AN/TFQ-7 photo lab. When the needs of the requestor can be met by contact prints and non-glossy prints, processing time is considerably reduced. For glossy prints, the photo is placed in the drier with the image toward the revolving steel drum. The photo nearly always sticks to the drum and has to be pealed off. When the photos are placed with the image toward the canvas conveyer belt to produce non-glossy prints, the conveyer belt can be loaded with more prints and they do not stick to the drum. Glossy prints have the disadvantages of becoming scratched after being handled.

d. Filing of negatives.

After processing, the negatives are placed in cannisters and marked with mission number and date. The cannisters are then filed in sequence, by mission number. The film from any mission can be located quickly for future reference or reproduction.

9. (U) Assembly of prints and delivery to requesting unit.

a. Mission overlay.

In order to correlate the photographs with the proper surface area on the map, it is quite often desirable to prepare an overlay for the requestor. This is prepared by the pilot from a 1:100,000 or larger scale map. The ground track, direction of flight, sequence of photos, and absolute altitude are indicated for each run (Inclosure 7).

b. Assembly and separation.

Before the prints are sent to the requestor, they are assembled in numerical order and separated by runs. Delivery is made in a messenger envelope or in a cardboard box; the boxes the printing paper comes in are ideal for this.

c. Photo mission data sheet.

The photo mission data sheet is sent to the requestor along with the prints; a duplicate is kept on file at unit operations for future reference.

d. Delivery of completed print package.

The completed print package consists of prints, overlay, and mission data sheet. The headquarters of supported units are stationed from 50 - 200 miles from the 23d SWAD operations office. This

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ANNEX O (continued)

makes photo delivery a problem. Normally, delivery of finished prints is combined with other operational missions which take Mohawks to the vicinity of the supported units. When the requirement for the prints is urgent, a Mohawk may be assigned to deliver the film, but other delivery means are used whenever possible.

MISSION REQUEST

ASSIGNED REQUEST NR._____

1. Priority: Routine__Immediate_____ 2. Type Mission:_____

3. Requested by:_____

4. Target Area/Description:_____

_____

Coordinate:_____ _____ _____

5. Specific Information/results desired:_____

_____

_____

6. Date/Time desired over target:_____

7. Date/Time mission no longer of value:_____

8. PHOTO:

a. Type: Vertical__Scale_____

Oblique___30°__15°__Alt_____

b. Nr. Prints per Usable Negative:

Contact 4½X4½:_____

Enlargement__Size:_____

c. Disposition of Prints:

Deliver to:_____

Date:_____

Will pick-up at:_____

Date:_____

9. Escort:

a. Helicopter_____Convoy_____

b. Departure Point:_____

c. ETD:_____ETE:_____

d. Nr. of Helicopter/Veh._____

_____

e. Route:_____

_____

_____

_____

f. Intermediate Stops:_____

_____

g. Frecuency:_____

h. Call Sign:_____

i. Est Speed:_____

10. Leaflet Drop:

a. Nr. Leaflets:_____

Size:_____

b. Pick-up leaflets at:_____

c. Time of pick-up:_____

d. Distribution of Leaflets:_____

_____

11. Illumination:

a. Duration of Illum:_____

b. Interval of Illum:_____

c. Burn-out alt:_____

d. Air to Grnd Frec:_____

e. Call Sign:_____

12. Artillery Adjustment:

a. Gun Positions:_____

_____

b. Call Sign:_____

c. Duration of Firing:_____

13. REMARKS:

RECEIVED BY:_____

DATE/TIME:_____

Inclosure 1 (Annex O)

PHOTOS PER UNIT DISTANCE
60% OVERLAP - VERTICAL PHOTOS

ALTITUDE (FT)	6" LENS CONE			3" LENS CONE		
	PER KM	PER 1000 YDS	PER NAUTICAL MI	PER KM	PER 1000 YDS	PER NAUTICAL MI
200	54.8	50.0	101.50	27.70	25.3	51.40
500	21.9	20.0	40.52	10.90	10.0	20.30
1000	10.9	10.0	20.30	5.46	5.0	10.13
2000	5.46	5.0	10.13	2.74	2.5	5.07
3000	3.65	3.34	6.77	1.82	1.67	3.38
4000	2.74	2.50	5.08	1.37	1.25	2.53
5000	2.19	2.00	4.06	1.10	1.00	2.03
6000	1.82	1.67	3.38	0.905	0.83	1.69
7000	1.57	1.43	2.90	0.782	0.715	1.45
8000	1.37	1.25	2.54	0.685	0.626	1.27
9000	1.22	1.12	2.25	0.610	0.557	1.13
10,000	1.10	1.00	2.03	0.545	0.498	1.01
12,000	0.905	0.83	1.68	0.453	0.414	0.84
14,000	0.782	0.715	1.45	0.388	0.355	0.72
16,000	0.685	0.626	1.27	0.340	0.310	0.63
18,000	0.610	0.557	1.13	0.302	0.276	0.56
20.000	0.545	0.498	1.01	0.270	0.247	0.50

To determine photos per unit distance for other overlaps, use following formula: Nr photos = $\frac{\text{Nr for 60\% x 40}}{\text{(1-desired \% overlap)}}$

EXAMPLE: Find nr photos per 1000 yds, using 6" lens cone, 1000 ft Alt, 80% overlap. Nr photos per 1000 yds @ 80% overlap = $\frac{10 \times .40}{(1-80)} = \frac{4}{20} = 20$

Inclosure 2, (Annex O)

VERTICAL PHOTOS
EXPOSURE INTERVAL (SEC) FOR 60% OVERLAP

ALTITUDE	6" LENS CONE GROUND SPEED (KTS)				3" LENS CONE GROUND SPEED (KTS)			
	140	160	180	200	140	160	180	200
200	0.25	0.22	0.20	0.18	0.51	0.45	0.40	0.35
500	0.64	0.56	0.50	0.44	1.27	1.11	0.99	0.89
1,000	1.27	1.11	0.99	0.89	2.54	2.22	1.97	1.77
2,000	2.54	2.22	1.97	1.77	5.08	4.44	3.96	3.54
3,000	3.81	3.33	2.96	2.77	7.63	6.66	5.92	5.32
4,000	5.08	4.44	3.94	3.54	10.18	8.88	7.88	7.08
5,000	6.35	5.55	4.94	4.43	12.71	11.10	9.88	8.86
6,000	7.63	6.66	5.92	5.32	15.24	13.32	11.84	10.64
7,000	8.90	7.77	6.90	6.20	17.80	15.54	13.80	12.40
8,000	10.18	8.88	7.90	7.09	20.37	17.76	15.80	14.18
9,000	11.45	10.00	8.87	7.97	22.90	20.00	17.74	15.94
10,000	12.71	11.10	9.86	8.86	25.40	22.20	19.72	17.72
12,000	15.24	13.32	11.82	10.62	30.50	26.64	23.64	21.24
14,000	17.80	15.54	13.80	12.30	35.60	31.08	27.60	24.60
16,000	20.37	17.76	15.79	14.19	40.60	35.52	31.58	28.38
18,000	22.90	20.00	17.75	15.94	45.70	40.00	35.50	31.88
20,000	25.40	22.20	19.80	17.80	50.80	44.40	39.40	36.40
22,000	28.00	24.40	21.80	19.60	55.90	48.80	43.40	38.90
24,000	30.50	26.80	23.80	21.40	61.00	53.30	47.30	42.50
26,000	33.00	28.90	25.80	23.20	66.00	57.60	51.20	45.00

TO DETERMINE INTERVAL FOR OTHER PERCENT OVERLAPS - DIVIDE INTERVAL FOR 60% BY .40 AND MULTIPLY BY (1.00 - % OVERLAP DESIRED). INTERVAL FOR OTHER %, OVERLAP = $\frac{\text{INT FOR } 60\%}{.40} \times (1.00 - \%\ \text{OVERLAP DESIRED})$. EXAMPLE: DETERMINE INTERVAL FOR 20% OVERLAP AT 1000', 6" LENS CONE, AT 140 KTS. INT FOR 20% = $\frac{1.27}{.40}$ X (1.00 - .20) = 2.64 SEC

23D SPECIAL WARFARE AVIATION DETACHMENT
PHOTO MISSION DATA SHEET

MISSION NR.	DATE	A/C MODEL NR.	A/C NR.	TYPE MISSION
		JAO-1C		

REQUESTED BY	PREPARED BY	WEATHER	TURBULENCE
	P O		

CAMERA TYPE	FOCAL LENGTH	FILTER TYPE	CAMERA BAY TEMP	FILM TYPE	FILM EXP DATE
KA-30A					

RUN	ALT / HEADING	GS / TOT	PHOTO VERT	PHOTO OBL	TARGET DESCRIPTION	TARGET COORD	TOTAL FRAMES
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							

M/P SHEETS — PHOTO TAKEN BY

CAMERA MALFUNCTIONS — 23RD SPWAR AVN DET (SURV)

REMARKS — DATE_____ TIME_____

PHOTO PROCESSING DATA

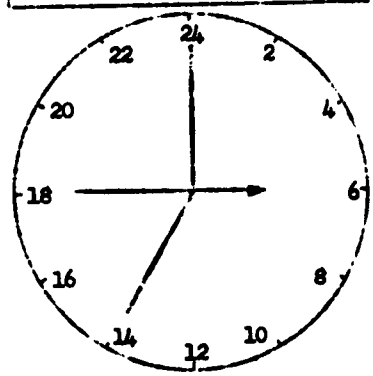
EQUIP USED	RE-WETTING YES NO	DEVELOPER	DEVELOPING TEMP	DEVELOPING TIME
METHOD OF DRYING	PRINTS PER USABLE NEGATIVE CONTACT 4 5 6 8	ENLARGEMENTS_____		TIME TO BE COMPLETED____

Inclosure 4 (Annex O)

63-1-45

10 JAN 63 (06)

23 SWAD



Inclosure 5 (Annex O)

AVIATORS DEBRIEFING FORM

Mission debriefing to be completed by aircraft crews immediately after each mission, regardless of type. "Kneeboard Spot Report Cards" will be attached when appropriate.

1. Mission Nr:_____, Date flown:_____.

2. Pilot and/or Observer:_____, _____

3. Take-Off:_____, Returned:_____, Stops:_____

_____

4. Total Flight Time:_____.

5. Type Mission: Visual: Day_____ Night_____ Photo: Day_____ Night_____

Artillery Adjustment: (Yes)(No) Illumination: (Yes)(No) Other:_____ (Specify)

6. Armament carried:_____, Expended:_____,

7. Was aircraft fired on?_____.

8. Was aircraft hit by enemy fire?_____ #Rounds:_____, Type:_____

Locations of hits:_____.

9. Did you deliver defensive fire?_____, Target:_____

Results:_____

Were damage assessment photographs taken?_____.

10. Was artillery adjusted or observed._____.

Type Target:_____, Results:_____

_____

Were damage assessment photographs taken?_____.

11. Observations:

a. Troops: Number:_____, Coord:_____.

Time:_____Mode of Tvl:_____Direction:_____.

In bivouac:_____ Coord:_____.

b. Installations: Type:_____, Size area_____.

Coord:_____, Time:_____.

c. Weapons: Coordinate:_____, Time:_____, Type:_____

Number:_____, Camouflaged:_____, Dug-in:_____.

d. Ambushes:

(1) Convoy: Under attack:_____, Coordinate:_____.

Time:_____Nr. attacking:_____, Nr & Type Veh._____

Estimate damage:_____.

(2) Railroad: Coord:_____ Time:_____.

Train derailed:_____, Stopped:_____, Under attack:_____

Estimate damage to train, rails or bridges:_____

_____.

e. Illumination: Number of flares carried: _____Number expended:_____.

Time dropped:_____, Coord:_____, Observations_____

_____.

f. Photographs: Day_____ Night_____ Type:_____.

Time:_____, Coord:_____, Number:_____.

g. Weather :_____

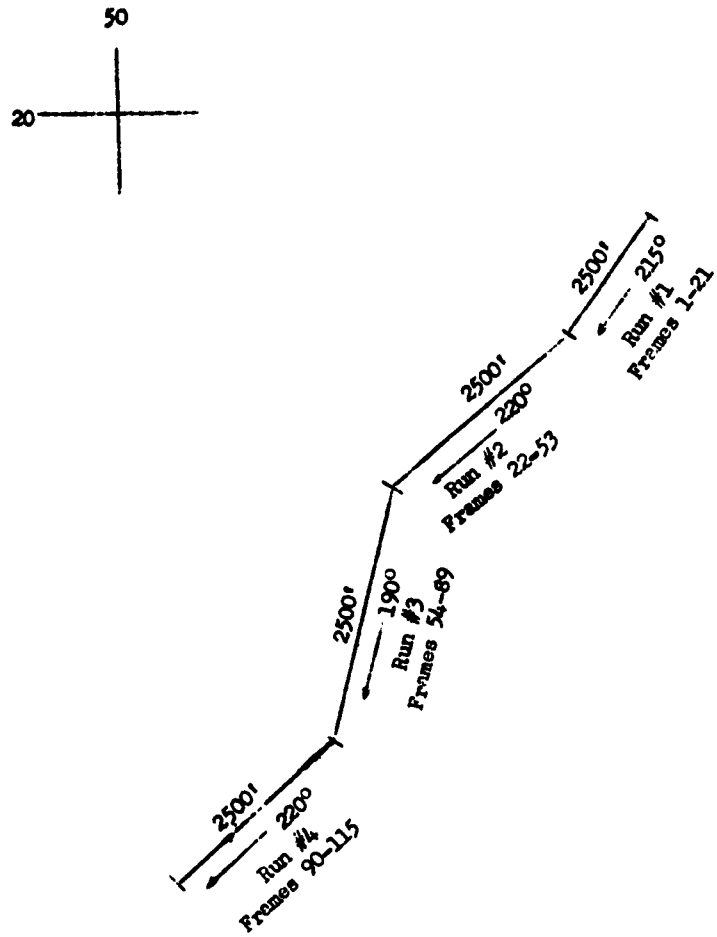
NARRATIVE DESCRIPTION OF MISSION:

_____

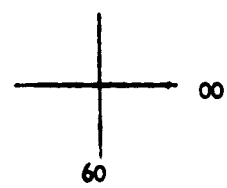
(Signature)

Qui Nhon 1:100,000

Sheet 166W



MISSION #63-1-45
23 SWAD
10 Jan 63
6" Focal Length
A/C #2706



Inclosure 7 (Annex O)

ACTIV-AM
Monthly Test Report Number 3 -- Mohawk

ANNEX P -- Distribution of Report

Addressee	Nr. Of Copies
Commander, US Military Assistance Command, Vietnam	15
Commander-in-Chief, US Army Pacific	5
Commanding General, US Army Combat Developments Command	50
Commanding General, US Army Materiel Command	5
Commanding General, US Army Support Group, Vietnam	20
Chief, Military Assistance Advisory Group, Vietnam (attention Chief, Army Section)	20
Deputy Chief of Staff for Military Operations, Department of the Army	10
Deputy Chief of Staff for Logistics, Department of the Army	5
Deputy Chief of Staff for Personnel, Department of the Army	5
Chief of Research and Development, Department of the Army	5
ACTIV Liaison Officer, ODCSOPS, Department of the Army	5

ANNEX P